

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

PREQUALIFICATION

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

REQUESTS FOR AUTHORIZATION TO BID

Contractors downloading and/or ordering CD-ROM's and are 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 124INT) and the ORIGINAL, signed and notarized, "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.

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.

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

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

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

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

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

IDOT is not responsible for any e-mail related failures.

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

Technical Questions about downloading these files may be directed to Tim Garman (217)524-1642 or garmantr@dot.il.gov.

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

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

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

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

WHO SHOULD BE CALLED IF ASSISTANCE IS NEEDED?

Questions Regarding	Call
Prequalification and/or Authorization to Bid	(217)782-3413
Preparation and submittal of bids	(217)782-7806
Mailing of plans and proposals	(217)782-7806
Electronic plans and proposals	(217)524-1642

ADDENDUMS AND REVISIONS TO THE PROPOSAL FORMS

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

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RETURN WITH BID

Proposal Submitted By
Name
Address
City

Letting November 16, 2007

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

NOTICE TO PROSPECTIVE BIDDERS

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

(SEE INSTRUCTIONS ON THE INSIDE OF COVER)

Notice To Bidders, Specifications, Proposal, Contract and Contract Bond



**Illinois Department
of Transportation**

Springfield, Illinois 62764

**Contract No. 83968
COOK County
Section 06-00241-00-PV (Evanston)
Route FAU 2744 (Ridge Avenue)
Project ACHPP-HPP-703(209)
District 1 Construction Funds**

PLEASE MARK THE APPROPRIATE BOX BELOW:

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

Prepared by

F

Checked by

(Printed by authority of the State of Illinois)

INSTRUCTIONS

ABOUT IDOT PROPOSALS: All proposals issued by IDOT are potential bidding proposals. Each proposal contains all Certifications and Affidavits, a Proposal Signature Sheet and a Proposal Bid Bond required for Prime Contractors to submit a bid after written **Authorization to Bid** has been issued by IDOT's Central Bureau of Construction.

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

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

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

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

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Preparation and submittal of bids	217/782-7806
Mailing of CD-ROMS	217/782-7806

RETURN WITH BID



PROPOSAL

TO THE DEPARTMENT OF TRANSPORTATION

1. Proposal of _____

Taxpayer Identification Number (Mandatory) _____

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

**Contract No. 83968
COOK County
Section 06-00241-00-PV (Evanston)
Project ACHPP-HPP-703(209)
Route FAU 2744 (Ridge Avenue)
District 1 Construction Funds**

Improvement consists of resurfacing Ridge Avenue to provide two 9-foot through lanes with a pavement width of 36 feet face-to-face of curb, pavement patching, PCC pavement widening, curb and gutter, drainage system and all incidental work to complete the project from Howard Street to Lyons Street in the city of Evanston.

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

RETURN WITH BID

3. **ASSURANCE OF EXAMINATION AND INSPECTION/WAIVER.** The undersigned further declares that he/she has carefully examined the proposal, plans, specifications, 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 proposal he/she waives all right to plead any misunderstanding regarding the same.

4. **EXECUTION OF CONTRACT AND CONTRACT BOND.** The undersigned 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, 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 proposals shall be made payable to the Treasurer, State of Illinois, when the state is awarding authority; the county treasurer, when a county is the awarding authority; or the city, village, or town treasurer, when a city, village, or town is the awarding authority.

If a combination bid is submitted, the proposal guaranties which accompany the individual 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 shall fail to execute a contract bond as required herein, it is hereby agreed that the amount of the proposal guaranty shall 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 shall become void or the proposal guaranty check shall 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 proposals, the amount must be equal to the sum of the proposal guaranties which would be required for each individual proposal. If the guaranty check is placed in another proposal, state below where it may be found.

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

Item _____

Section No. _____

County _____

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

BD 354 (Rev. 11/2001)

RETURN WITH BID

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

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

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

Schedule of Combination Bids

Combination No.	Sections Included in Combination	Combination Bid	
		Dollars	Cents

7. **SCHEDULE OF PRICES.** The undersigned bidder submits herewith, in accordance with the rules and instructions, a schedule of prices for the items of work for which bids are sought. The unit prices bid are in U.S. dollars and cents, and all extensions and summations have been made. The bidder understands that the quantities appearing in the bid schedule are approximate and are provided for the purpose of obtaining a gross sum for the comparison of bids. If there is an error in the extension of the unit prices, the unit prices shall govern. Payment to the contractor awarded the contract will be made only for actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as provided elsewhere in the contract.
8. **CERTIFICATE OF AUTHORITY.** The undersigned bidder, if a business organized under the laws of another State, assures the Department that it will furnish a copy of its certificate of authority to do business in the State of Illinois with the return of the executed contract and bond. Failure to furnish the certificate within the time provided for execution of an awarded contract may be cause for cancellation of the award and forfeiture of the proposal guaranty to the State.

STATE JOB # - C-91-145-07
 PPS NBR - 1-76744-0000

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - 83968

ECMS002 DTGECM03 ECMR003 PAGE 1
 RUN DATE - 10/16/07
 RUN TIME - 184927

ITEM NUMBER	COUNTY NAME	CODE	DIST	SECTION NUMBER	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	CENTS	TOTAL PRICE DOLLARS	CTS	ROUTE
LR430030		031	01	06-00241-00-PV (EVANSTON)	CONC PAVER PAVEMENT	SQ YD	10.000	X			
XX003455					POR GRAN EMBANK SUB	TON	500.000	X			
XX003560					CURB & GUTTER REM&REP	FOOT	22,225.000	X			
XX003668					PRECONSTRUCT VID TAP	L SUM	1.000	X			
XX004689					SAN SERVICE ADJUSTED	EACH	35.000	X			
XX004762					WATER SERV LINE ADJ	EACH	35.000	X			
XX004812					VIDEO TAPE OF SEWERS	FOOT	13,890.000	X			
XX004878					MAINT TEMP EROS CON S	L SUM	1.000	X			
XX005063					CLASS B PATCHES	SQ YD	4,956.000	X			
XX005065					CLASS B PATCHES HEC	SQ YD	740.000	X			
XX005617					CONN EX MNHOLS CORING	EACH	55.000	X			
XX005655					SS REM UNDER 18	FOOT	283.000	X			
XX005688					SS D I P CL 52 8"	FOOT	1,135.000	X			
XX005689					SS D I P CL 52 10"	FOOT	273.000	X			
XX005751					MANHOLE REHAB	FOOT	579.000	X			

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 COOK

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - 83968

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 RUN DATE - 10/16/07
 RUN TIME - 184927

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
XX005758	TEMPORARY PAVEMENT	TON	30.000	=			
XX005879	DRAINAGE RESTR ASSEMB	EACH	65.000	=			
XX006464	D WATER SER BOX ADJ S	EACH	50.000	=			
XX006698	TREE PROTECT & PRESER	EACH	382.000	=			
XX007146	SS T2 WYE 12P 12BR	EACH	3.000	=			
XX007147	R&REP LAWN SPRINK SYS	FOOT	50.000	=			
X0322256	TEMP INFO SIGNING	SQ FT	1,200.000	=			
X0323221	PLUG & ABAND EX PIPE	CU YD	17.000	=			
X0323426	SED CONT DR ST INL CL	EACH	98.000	=			
X4021000	TEMP ACCESS- PRIV ENT	EACH	85.000	=			
X4067107	POL LB MM IL4.75 N50	TON	2,805.000	=			
X7015012	CHANGE MESSAGE SN SPL	EACH	2.000	=			
Z0019600	DUST CONTROL WATERING	UNIT	10.000	=			
Z0048665	RR PROT LIABILITY INS	L SUM	1.000	=			
Z0067700	STEEL CASINGS 20	FOOT	66.000	=			

FAU 2744
 06-00241-00-PV (EVANSTON)
 COOK

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - 83968

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 RUN DATE - 10/16/07
 RUN TIME - 184927

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
Z0076600	TRAINEES	HOUR	3,000.000	0.80	=	2,400.00	
20101000	TEMPORARY FENCE	FOOT	2,000.000		=		
20101200	TREE ROOT PRUNING	EACH	382.000		=		
20101400	NITROGEN FERT NUTR	POUND	94.000		=		
20101500	PHOSPHORUS FERT NUTR	POUND	94.000		=		
20101600	POTASSIUM FERT NUTR	POUND	94.000		=		
20101700	SUPPLE WATERING	UNIT	8.000		=		
20200100	EARTH EXCAVATION	CU YD	2,100.000		=		
20201200	REM & DISP UNS MATL	CU YD	267.000		=		
20400800	FURNISHED EXCAV	CU YD	250.000		=		
20800250	TRENCH BACKFILL SPL	CU YD	8,184.000		=		
21001000	GEOTECH FAB F/GR STAB	SQ YD	2,928.000		=		
21101615	TOPSOIL F & P 4	SQ YD	12,100.000		=		
21300010	EXPLOR TRENCH SPL	FOOT	100.000		=		
25000400	NITROGEN FERT NUTR	POUND	428.000		=		

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ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - 83968

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 RUN DATE - 10/16/07
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
25000500	PHOSPHORUS FERT NUTR	POUND	428.000	=			
25000600	POTASSIUM FERT NUTR	POUND	428.000	X			
25200110	SODDING SALT TOLERANT	SQ YD	12,100.000	X			
28000400	PERIMETER EROS BAR	FOOT	9,000.000	X			
28000510	INLET FILTERS	EACH	98.000	X			
31101100	SUB GRAN MAT B	CU YD	23.000	X			
35101600	AGG BASE CSE B 4	SQ YD	770.000	X			
35400300	PCC BASE CSE W 8	SQ YD	770.000	X			
40300100	BIT MATLS PR CT	GALLON	10,100.000	X			
40600400	MIX CR JTS FLANGEWYS	TON	20.000	X			
40600535	LEV BIND HM N70	TON	20.000	X			
40600895	CONSTRUC TEST STRIP	EACH	2.000	X			
40600982	HMA SURF REM BUTT JT	SQ YD	763.000	X			
40601005	HMA REPL OVER PATCH	TON	957.000	X			
40603085	HMA BC IL-19.0 N70	TON	9,816.000	X			

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ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - 83968

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 RUN DATE - 10/16/07
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
40603340	HMA SC "D" N70	TON	4,908.000	=			
42001300	PROTECTIVE COAT	SQ YD	7,769.000	=			
42300200	PCC DRIVEWAY PAVT 6	SQ YD	1,675.000	=			
42400200	PC CONC SIDEWALK 5	SQ FT	40,000.000	=			
42400800	DETECTABLE WARNINGS	SQ FT	3,420.000	=			
44000198	HMA SURF REM VAR DP	SQ YD	50,082.000	=			
44000200	DRIVE PAVEMENT REM	SQ YD	1,402.000	=			
44000600	SIDEWALK REM	SQ FT	40,000.000	=			
44201074	CL B PATCH T1	SQ YD	439.000	=			
44201076	CL B PATCH T2	SQ YD	2,634.000	=			
44201078	CL B PATCH T3	SQ YD	878.000	=			
44201080	CL B PATCH T4	SQ YD	439.000	=			
44400100	FIBERGLASS FAB REP SY	SQ YD	50,082.000	=			
550A2520	SS RG CL A 2 12	FOOT	2,974.000	=			
550A2530	SS RG CL A 2 15	FOOT	384.000	=			

FAU 2744
 06-00241-00-PV (EVANSTON)
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ILLINOIS DEPARTMENT OF TRANSPORTATION
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 RUN DATE - 10/16/07
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE
				DOLLARS	CENTS	
550A2560	SS RG CL A 2 24	FOOT	30.000	=		
550A2720	SS RG CL A 3 12	FOOT	392.000	=		
550A2730	SS RG CL A 3 15	FOOT	1,633.000	=		
550A2740	SS RG CL A 3 18	FOOT	787.000	=		
550A2760	SS RG CL A 3 24	FOOT	384.000	=		
56103000	D I WATER MAIN 6	FOOT	120.000	=		
56400300	FIRE HYDNTS TO BE ADJ	EACH	20.000	=		
60201105	CB TA 4 DIA T11F&G	EACH	31.000	=		
60218400	MAN TA 4 DIA T1F CL	EACH	10.000	=		
60220400	MAN TA SPL 4D T1F CL	EACH	35.000	=		
60223100	MAN TA SPL 5D T1F CL	EACH	4.000	=		
60236800	INLETS TA T11F&G	EACH	10.000	=		
60248700	VV TA 4 DIA T1F CL	EACH	2.000	=		
60250200	CB ADJUST	EACH	102.000	=		
60252800	CB RECONST	EACH	10.000	=		

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ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - 83968

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 RUN DATE - 10/16/07
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	CTS
				DOLLARS	CENTS		
60255500	MAN ADJUST	EACH	2.000	=			
60257900	MAN RECONST	EACH	13.000	=			
60265700	VV ADJUST	EACH	11.000	=			
60266100	VV RECONST	EACH	1.000	=			
60266500	VV REMOVED	EACH	1.000	=			
60266600	VALVE BOX ADJ	EACH	1.000	=			
60266910	VALVE BOX REMOVED	EACH	1.000	=			
60300310	FR & LIDS ADJUST SPL	EACH	150.000	=			
60404800	FR & GRATES T11	EACH	87.000	=			
60406000	FR & LIDS T1 OL	EACH	15.000	=			
60406100	FR & LIDS T1 CL	EACH	143.000	=			
60500040	REMOV MANHOLES	EACH	12.000	=			
60500050	REMOV CATCH BAS	EACH	31.000	=			
60500060	REMOV INLETS	EACH	10.000	=			
67000400	ENGR FIELD OFFICE A	CAL MO	8.000	=			

FAU 2744
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 COOK

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - 83968

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 RUN DATE - 10/16/07
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE
				DOLLARS	CENTS	
67100100	MOBILIZATION	L SUM	1.000	=		
70101700	TRAF CONT & PROT	L SUM	1.000	=		
70102550	TR CONT-PROT TEMP DET	EACH	1.000	=		
70300100	SHORT-TERM PAVT MKING	FOOT	6,600.000	=		
70300210	TEMP PVT MK LTR & SYM	SQ FT	53.000	=		
70300725	TEMP PT PAVT MK 4 WH	FOOT	18,276.000	=		
70300735	TEMP PT PAVT MK 6 WH	FOOT	4,465.000	=		
70300760	TEMP PT PAVT MK 24 WH	FOOT	1,078.000	=		
70300825	TEMP PT PVT MK 4 YEL	FOOT	18,276.000	=		
72000100	SIGN PANEL T1	SQ FT	500.000	=		
72400500	RELOC SIN PAN ASSY TA	EACH	25.000	=		
72800100	TELES STL SIN SUPPORT	FOOT	1,500.000	=		
73100110	BASE TEL SIN SUPP, SP	EACH	50.000	=		
78000100	THPL PVT MK LTR & SYM	SQ FT	432.000	=		
78000200	THPL PVT MK LINE 4	FOOT	5,890.000	=		

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ILLINOIS DEPARTMENT OF TRANSPORTATION
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
78000400	THPL PVT MK LINE 6	FOOT	4,465.000	=			
78000500	THPL PVT MK LINE 8	FOOT	112.000	=			
78000600	THPL PVT MK LINE 12	FOOT	2,161.000	=			
78000650	THPL PVT MK LINE 24	FOOT	1,078.000	=			
78100100	RAISED REFL PAVT MKR	EACH	256.000	=			
78300100	PAVT MARKING REMOVAL	SQ FT	14,155.000	=			
85000200	MAIN EX TR SIG INSTAL	EACH	11.000	=			
88600100	DET LOOP T1	FOOT	4,000.000	=			
TOTAL				\$			

- NOTE:
- EACH PAY ITEM SHOULD HAVE A UNIT PRICE AND A TOTAL PRICE.
 - 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.
 - IF A UNIT PRICE IS OMITTED, THE TOTAL PRICE WILL BE DIVIDED BY THE QUANTITY IN ORDER TO ESTABLISH A UNIT PRICE.
 - A BID MAY BE DECLARED UNACCEPTABLE IF NEITHER A UNIT PRICE NOR A TOTAL PRICE IS SHOWN.

RETURN WITH BID

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

I. GENERAL

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

B. In order to comply with the provisions of Article 50 and to carry out the duty established therein, all bidders are to adhere to ethical standards established for the procurement process, and to make such assurances, disclosures and certifications required by law. By execution of the Proposal Signature Sheet, the bidder indicates that each of the mandated assurances has 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 termination of the contract and the suspension or debarment of the bidder.

II. ASSURANCES

A. 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. The Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous assurance, and the surety providing the performance bond shall be responsible for the completion of the contract.

B. Felons

1. The Illinois Procurement Code provides:

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

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-10.

C. Conflicts of Interest

1. The Illinois Procurement Code provides in pertinent part:

Section 50-13. Conflicts of Interest.

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

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

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

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

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

The current salary of the Governor is \$150,700.00. Sixty percent of the salary is \$90,420.00.

RETURN WITH BID

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

D. Negotiations

1. The Illinois Procurement Code provides in pertinent part:

Section 50-15. Negotiations.

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

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

E. Inducements

1. The Illinois Procurement Code provides:

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

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

F. Revolving Door Prohibition

1. The Illinois Procurement Code provides:

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

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

G. Reporting Anticompetitive Practices

1. The Illinois Procurement Code provides:

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

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

H. Confidentiality

1. The Illinois Procurement Code provides:

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

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

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I. Insider Information

1. The Illinois Procurement Act provides:

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

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

III. CERTIFICATIONS

A. 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. The Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous certification, and the surety providing the performance bond shall be responsible for completion of the contract.

B. Bribery

1. The Illinois Procurement Code provides:

Section 50-5. Bribery.

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

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

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

(b) Businesses. No business shall be barred from contracting with any unit of State or local government 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, and that entity finds that the commission of the offense was not authorized, requested, commanded, or performed by a director, officer, or high managerial agent on behalf of the business as provided in paragraph (2) of subsection (a) of Section 5-4 of the Criminal Code of 1961.

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

(d) Certification. Every bid submitted to and contract executed by the State shall contain a certification by the contractor that the contractor is not barred from being awarded a contract or subcontract under this Section. A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

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

C. Educational Loan

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

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

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

D. Bid-Rigging/Bid Rotating

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

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

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(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.

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

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

E. International Anti-Boycott

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

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

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

F. Drug Free Workplace

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

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

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

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

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

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

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

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

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

G. Debt Delinquency

1. The Illinois Procurement Code provides:

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

The contractor or bidder certifies that it, or any affiliate, is not barred from being awarded a contract under 30 ILCS 500. Section 50-11 prohibits a person from entering into a contract with a State agency 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 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 contractor further acknowledges that the contracting State agency may declare the contract void if this certification is false or if the contractor, or any affiliate, is determined to be delinquent in the payment of any debt to the State during the term of the contract.

H. Sarbanes-Oxley Act of 2002

1. The Illinois Procurement Code provides:

Section 50-60(c).

The contractor 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 for a period of five years prior to the date of the bid or contract. The contractor acknowledges that the contracting agency shall declare the contract void if this certification is false.

I. Addenda

The contractor or bidder certifies that all relevant addenda have been incorporated in to this contract. Failure to do so may cause the bid to be declared unacceptable.

J. Section 42 of the Environmental Protection Act

The contractor certifies in accordance with 30 ILCS 500/50-12 that the bidder or contractor is not barred from being awarded a contract under this Section which prohibits the bidding on or entering into contracts with the State of Illinois or a State agency 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 contractor acknowledges that the contracting agency may declare the contract void if this certification is false.

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

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

NA - FEDERAL

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

L. Executive Order Number 1 (2007) Regarding Lobbying on Government Procurements

The bidder hereby warrants and certifies that they have complied and will comply with the requirements set forth in this Order. The requirements of this warrant and certification are a material part of the contract, and the contractor shall require this warrant and certification provision to be included in all approved subcontracts.

TO BE RETURNED 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 Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous disclosure, and the surety providing the performance bond shall be responsible for completion of the contract.

B. Financial Interests and Conflicts of Interest

1. Section 50-35 of the Illinois Procurement Code provides that all bids of more than \$10,000 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.

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

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

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

C. Disclosure Form Instructions

Form A: For bidders that have previously submitted the information requested in Form A

The Department has retained the Form A disclosures submitted by all bidders responding to these requirements for the April 24, 1998 or any subsequent letting conducted by the Department. The bidder has the option of submitting the information again or the bidder may sign the following certification statement indicating that the information previously submitted by the bidder is, as of the date of signature, current and accurate. The Certification must be signed and dated by a person who is authorized to execute contracts for the bidding company. Before signing this certification, the bidder should carefully review its prior submissions to ensure the Certification is correct. If the Bidder signs the Certification, the Bidder should proceed to Form B instructions.

CERTIFICATION STATEMENT

I have determined that the Form A disclosure information previously submitted is current and accurate, and all forms are hereby incorporated by reference in this bid. Any necessary additional forms or amendments to previously submitted forms are attached to this bid.

(Bidding Company)

Name of Authorized Representative (type or print)

Title of Authorized Representative (type or print)

Signature of Authorized Representative

Date

Form A: For bidders who have NOT previously submitted the information requested in Form A

If the bidder is a publicly traded entity subject to Federal 10K reporting, the 10K Report may be submitted to meet the requirements of Form A. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. If a bidder is not subject to Federal 10K reporting, the bidder must determine if any individuals are required by law to complete a financial disclosure form. To do this, the bidder should answer each of the following questions. A "YES" answer indicates Form A must be completed. If the answer to each of the following questions is "NO", then the NOT APPLICABLE STATEMENT on the second page of 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 \$90,420.00? YES ___ NO ___
3. Does anyone in your organization receive more than \$90,420.00 of the bidding entity's or parent entity's distributive income? (Note: Distributive income is, for these purposes, any type of distribution of profits. An annual salary is not 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 \$90,420.00? 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 on page 2 of Form A must be signed and dated by a person that is authorized to execute contracts for your company.

Form B: Identifying Other Contracts & Procurement Related Information Disclosure Form B must be completed for each bid submitted by the bidding entity. It must be signed by an individual who is authorized to execute contracts for the bidding entity. *Note: Signing the NOT APPLICABLE STATEMENT on Form A does not allow the bidder to ignore Form B. Form B must be completed, signed 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 signature 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.

D. Bidders Submitting More Than One Bid

Bidders submitting multiple bids may submit one set of forms consisting of all required Form A disclosures and one Form B for use with all bids. Please indicate in the space provided below the bid item that contains the original disclosure forms and the bid items which incorporate the forms by reference.

- The bid submitted for letting item _____ contains the Form A disclosures or Certification Statement and the Form B disclosures. The following letting items incorporate the said forms by reference:

RETURN WITH BID/OFFER

**ILLINOIS DEPARTMENT
OF TRANSPORTATION**

**Form A
Financial Information &
Potential Conflicts of Interest
Disclosure**

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

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Code (30 ILCS 500). Vendors desiring to enter into a contract with the State of Illinois must disclose the financial information and potential conflict of interest information as specified in this Disclosure Form. This information shall become part of the publicly available contract file. This Form A must be completed for bids in excess of \$10,000, 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.**

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 \$90,420.00 (60% of the Governor's salary as of 7/1/01). **(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.

- Are you currently an officer or employee of either the Capitol Development Board or the Illinois Toll Highway Authority? Yes ___ No ___
- 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 \$90,420.00, (60% of the Governor's salary as of 7/1/01) provide the name the State agency for which you are employed and your annual salary. _____

RETURN WITH BID/OFFER

- 3. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds \$90,420.00, (60% of the Governor's salary as of 7/1/01) 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 the 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 \$90,420.00, (60% of the Governor's salary as of 7/1/01) 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 2 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 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 \$90,420.00, (60% of the Governor's salary as of 7/1/01) 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 \$90,420.00, (60% of the salary of the Governor as of 7/1/01) 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 the 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 \$90,420.00, (60% of the Governor's salary as of 7/1/01) 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 2 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/OFFER

(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 ___

APPLICABLE STATEMENT

This Disclosure Form A is submitted on behalf of the INDIVIDUAL named on previous page.

Completed by: _____
Name of Authorized Representative (type or print)

Completed by: _____
Title of Authorized Representative (type or print)

Completed by: _____ Date _____
Signature of Individual or Authorized Representative

NOT APPLICABLE STATEMENT

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.

Name of Authorized Representative (type or print)

Title of Authorized Representative (type or print)

Signature of Authorized Representative Date _____

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**ILLINOIS DEPARTMENT
OF TRANSPORTATION**

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

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

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Act (30 ILCS 500). This information shall become part of the publicly available contract file. This Form B must be completed for bids in excess of \$10,000, 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 SIGNED

Name of Authorized Representative (type or print)	

Title of Authorized Representative (type or print)	
_____	_____
Signature of Authorized Representative	Date

RETURN WITH BID

SPECIAL NOTICE TO CONTRACTORS

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

CONSTRUCTION EMPLOYEE UTILIZATION PROJECTION

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



Contract No. 83968
COOK County
Section 06-00241-00-PV (Evanston)
Project ACHPP-HPP-703(209)
Route FAU 2744 (Ridge Avenue)
District 1 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

TOTAL Workforce Projection for Contract													
JOB CATEGORIES	TOTAL EMPLOYEES		MINORITY EMPLOYEES						TRAINEES				
			BLACK		HISPANIC		*OTHER MINOR.		APPRENTICES		ON THE JOB TRAINEES		
	M	F	M	F	M	F	M	F	M	F	M	F	
OFFICIALS (MANAGERS)													
SUPERVISORS													
FOREMEN													
CLERICAL EQUIPMENT OPERATORS													
MECHANICS													
TRUCK DRIVERS													
IRONWORKERS													
CARPENTERS													
CEMENT MASONS													
ELECTRICIANS													
PIPEFITTERS, PLUMBERS													
PAINTERS													
LABORERS, SEMI-SKILLED													
LABORERS, UNSKILLED													
TOTAL													

TABLE B

CURRENT EMPLOYEES TO BE ASSIGNED TO CONTRACT				
TOTAL EMPLOYEES		MINORITY EMPLOYEES		
M	F	M	F	

TABLE C

TOTAL Training Projection for Contract									
EMPLOYEES IN TRAINING	TOTAL EMPLOYEES		BLACK		HISPANIC		*OTHER MINOR.		
	M	F	M	F	M	F	M	F	
APPRENTICES									
ON THE JOB TRAINEES									

FOR DEPARTMENT USE ONLY

*Other minorities are defined as Asians (A) or Native Americans (N).
 Please specify race of each employee shown in Other Minorities column.
Note: See instructions on the next page

RETURN WITH BID

**Contract No. 83968
COOK County
Section 06-00241-00-PV (Evanston)
Project ACHPP-HPP-703(209)
Route FAU 2744 (Ridge Avenue)
District 1 Construction Funds**

PART II. WORKFORCE PROJECTION - continued

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

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

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

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

PART III. AFFIRMATIVE ACTION PLAN

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

Company _____ Telephone Number _____

Address _____

NOTICE REGARDING SIGNATURE

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

Signature: _____ Title: _____ Date: _____

Instructions: All tables must include subcontractor personnel in addition to prime contractor personnel.

Table A - Include both the number of employees that would be hired to perform the contract work and the total number currently employed (Table B) that will be allocated to contract work, and include all apprentices and on-the-job trainees. The "Total Employees" column should include all employees including all minorities, apprentices and on-the-job trainees to be employed on the contract work.

Table B - Include all employees currently employed that will be allocated to the contract work including any apprentices and on-the-job trainees currently employed.

Table C - Indicate the racial breakdown of the total apprentices and on-the-job trainees shown in Table A.

RETURN WITH BID

ADDITIONAL FEDERAL REQUIREMENTS

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

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

RETURN WITH BID

**Contract No. 83968
COOK County
Section 06-00241-00-PV (Evanston)
Project ACHPP-HPP-703(209)
Route FAU 2744 (Ridge Avenue)
District 1 Construction Funds**

PROPOSAL SIGNATURE SHEET

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

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

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

(IF A CORPORATION) Corporate Name _____
By _____
Signature of Authorized Representative _____
Typed or printed name and title of Authorized Representative _____

(IF A JOINT VENTURE, USE THIS SECTION FOR THE MANAGING PARTY AND THE SECOND PARTY SHOULD SIGN BELOW) Attest _____
Signature _____
Business Address _____

(IF A JOINT VENTURE) Corporate Name _____
By _____
Signature of Authorized Representative _____
Typed or printed name and title of Authorized Representative _____

Attest _____
Signature _____
Business Address _____

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

RETURN WITH BID



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

Item No.
Letting Date

KNOW ALL MEN BY THESE PRESENTS, That We

as PRINCIPAL, and

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

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

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

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

In TESTIMONY WHEREOF, the said PRINCIPAL and the said SURETY have caused this instrument to be signed by their respective officers this day of A.D.,

PRINCIPAL SURETY
(Company Name)
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 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

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. 83968
COOK County
Section 06-00241-00-PV (Evanston)
Project ACHPP-HPP-703(209)
Route FAU 2744 (Ridge Avenue)
District 1 Construction Funds**



Illinois Department of Transportation



NOTICE TO BIDDERS

- 1. TIME AND PLACE OF OPENING BIDS.** Sealed proposals for the improvement described herein will be received by the Department of Transportation at the Harry R. Hanley Building, 2300 South Dirksen Parkway, in Springfield, Illinois until 10:00 o'clock a.m., November 16, 2007. 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. 83968
COOK County
Section 06-00241-00-PV (Evanston)
Project ACHPP-HPP-703(209)
Route FAU 2744 (Ridge Avenue)
District 1 Construction Funds**

Improvement consists of resurfacing Ridge Avenue to provide two 9-foot through lanes with a pavement width of 36 feet face-to-face of curb, pavement patching, PCC pavement widening, curb and gutter, drainage system and all incidental work to complete the project from Howard Street to Lyons Street in the city of Evanston.

- 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

Milton R. Sees, Secretary

BD 351 (Rev. 01/2003)

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2007

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

SUPPLEMENTAL SPECIFICATIONS

Std. Spec. Sec.

Page No.

No Supplemental Specifications this year.

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9 Construction Layout Stakes Except for Bridges (Eff. 1-1-99) (Rev. 1-1-07)	27
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Ridge Avenue STP Improvement
Section No. 06-00241-00-PV
Job No.: C-91-145-07
Project No. HPP-0703(209)
Contract No.: 83968

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LR SD 12	"Slab Movement Detection Device" (Eff. 11/1/84) (Rev. 1/1/07).....	
LR SD 13	"Required Cold Milled Surface Texture" (Eff. 11/1/87) (Rev. 1/1/07).....	
LR SD 630	"Steel Plate Beam Guardrail" (Eff. 2/1/07). Developed to allow local agencies to continue to use 27" guardrail with 6 inch blockouts.	
LR SD 631	"Traffic Barrier Terminals" (Rev. 2/1/07). Developed to keep Traffic Barrier Terminals Type 1, 2 & 5A as an option for local agencies to use with 27" guardrail with 6 inch blockouts.	
LR SD 633	"Remove and Reerect Steel Plate Beam Guardrail" (Eff. 2/1/07). Developed to allow local agencies to replace 27" guardrail with 6 inch blockouts.	
LR 102	"Protests on Local Lettings" (Eff. 1/1/07). Developed to allow local agencies to adopt the department's interested party protest procedures outlined in Title 44 of the IL Administrative Code.	
LR 105	X "Cooperation with Utilities" (Eff 1/1/99) (Rev 1/1/07). Formerly issued as LRS 1 and was reissued as an LR Contract Special Provision based on industry concerns discussed at the Joint Coop.	182
LR 107-1	"Nationwide Permit No. 14" (Eff. 2/1/04) (Rev. 3/1/05). Developed to outline the necessary requirements to comply with No. 14 permits.	
LR 107-2	"Railroad Protective Liability Insurance for Local Lettings" (Eff. 3/1/05) (Rev 1/1/06). Developed to require insurance policies to be submitted to the letting agency rather than the department.	
LR 107-3	"Disadvantaged Business Enterprise Participation" (Eff. 1/1/07). Developed to require DBE utilization plans to be submitted to the local agency.	
LR 107-4	X "Insurance" (Rev. 8/1/07). Developed based on recommendations from IACE Policy Committee to ensure local agencies are indemnified when their projects are on the state letting.	185
LR 108	"Combination Bids (Eff. 1/1/94) (Rev. 3/1/05). Developed to allow the revision of working days and calendar days. Revised to incorporate applicable portions of deleted Sections 102 & 103.	
LR 212	"Shaping Roadway" (Eff. 8/1/69) (Rev. 1/1/02).	
LR 355-1	"Asphalt Stabilized Base Course, Road Mix or Traveling Plant Mix" (Eff. 10/1/73) (Rev. 1/1/07)	
LR 355-2	"Asphalt Stabilized Base Course, Plant Mix" (Eff. 2/20/63) (Rev. 1/1/07)	
LR 400	"Bituminous Treated Earth Surface (Eff. 1/1/07). Developed since Section 401 was eliminated from the 2007 Standard Specifications.	
LR 402	"Salt Stabilized Surface Course" (Eff. 2/20/63) (Rev. 1/1/07)	
LR 403-2	Bituminous Hot Mix Sand Seal Coat" (Eff. 8/1/69) (Rev. 1/1/07)	
LR 420	"PCC Pavement (Special)" (Eff. 5/12/64) (Rev. 1/1/07). Developed to allow local agencies to construct quality PCC pavements for low volume roads.	
LR 442	"Bituminous Patching Mixtures for Maintenance Use" (Eff 1/1/04) (Rev. 8/1/07). Developed to reference approved bituminous patching mixtures.	
LR 451	"Crack Filling Bituminous Pavement with Fiber-Asphalt" (Eff. 10/1/91) (Rev. 1/1/07)	
LR 503-1	"Furnishing Class SI Concrete" (Eff. 10/1/73) (Rev. 1/1/02)	
LR 503-2	"Furnishing Class SI Concrete (Short Load)" (Eff. 1/1/89) (Rev. 1/1/02). Developed to allow a load charge to be added when short loads are expected during the contract.	
LR 542	"Pipe Culverts, Type _____ (Furnished)" (Eff. 9/1/64) (Rev. 1/1/07)	
LR 663	"Calcium Chloride Applied" (Eff. 6/1/58) (Rev. 1/1/07)	
LR 702	"Construction and Maintenance Signs" (Eff 1/1/04) (Rev 6/1/07). Developed to require florescent orange sheeting and a minimum sign size of 48" X 48" on construction and maintenance signs.	
LR 1004	"Coarse Aggregate for Bituminous Surface Treatment" (Eff. 1/1/02) (Rev 1/1/07). Developed to provide a coarser mix when aggregate producers have adjusted the CA-16 gradation according to the Aggregate Gradation Control System (AGCS) to a finer mix for Hot-Mix Asphalt.	
LR 1013	"Rock Salt (Sodium Chloride)" (Eff. 8/1/69) (Rev. 1/1/02)	
LR 1032-1	"Penetrating Emulsions" (Eff. 1/1/07) (Rev. 2/1/07). Developed to combine Penetrating Emulsified Asphalt and Penetrating Emulsified Prime into a single special provision.	
LR 1032-2	"Multigrade Cold Mix Asphalt" (Eff. 1/1/07) (Rev. 2/1/07). Developed to provide the material specification for Multigrade cold mix asphalt.	
LR 1102	"Road Mix or Traveling Plan Mix Equipment" (Eff. 1/1/07). Developed to replace road mix and traveling plant mix bituminous equipment that was eliminated from the Standard Specifications.	

BDE SPECIAL PROVISIONS
For the November 16, 2007 Letting

The following special provisions indicated by an "x" are applicable to this contract. An * indicates a new or revised special provision for the letting.

<u>File Name</u>	<u>Pg#</u>	<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80099		Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2007
80186		Alkali-Silica Reaction for Cast-in-Place Concrete	Aug. 1, 2007	
80108		Asbestos Bearing Pad Removal	Nov. 1, 2003	
72541		Asbestos Waterproofing Membrane and Asbestos Hot-Mix Asphalt Surface Removal	June 1, 1989	Jan. 2, 2007
80173	186	X Bituminous Materials Cost Adjustments	Nov. 2, 2006	Jan. 2, 2007
50261		Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	Jan. 1, 2007
50481		Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	Jan. 1, 2007
50491		Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	Jan. 1, 2007
50531		Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	Jan. 1, 2007
* 80166	189	X Cement	Jan. 1, 2007	Nov. 1, 2007
80177		Digital Terrain Modeling for Earthwork Calculations	April 1, 2007	
80029	192	X Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Jan. 1, 2007
80178	200	X Dowel Bars	April 1, 2007	
80167		Electrical Service Installation – Traffic Signals	Jan. 1, 2007	
* 80190		Engineer's Field Office (Long Distance Bill)	Nov. 1, 2007	
80179	201	X Engineer's Field Office Type A	April 1, 2007	
80175		Epoxy Pavement Markings	Jan. 1, 2007	
80189	202	X Equipment Rental Rates	Aug. 2, 2007	
80180	204	X Erosion and Sediment Control Deficiency Deduction	April 1, 2007	
80168	205	X Errata for the 2007 Standard Specifications	Jan. 1, 2007	Aug. 1, 2007
80169		High Tension Cable Median Barrier	Jan. 1, 2007	
80142	208	X Hot-Mix Asphalt Equipment, Spreading and Finishing Machine	Jan. 1, 2005	Jan. 1, 2007
80181		Hot-Mix Asphalt – Field Voids in the Mineral Aggregate	April 1, 2007	
80136		Hot-Mix Asphalt Mixture IL-4.75	Nov. 1, 2004	April 1, 2007
80109		Impact Attenuators	Nov. 1, 2003	Jan. 1, 2007
80110		Impact Attenuators, Temporary	Nov. 1, 2003	Jan. 1, 2007
80045		Material Transfer Device	June 15, 1999	Jan. 1, 2007
80165		Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2007
80082	209	X Multilane Pavement Patching	Nov. 1, 2002	
80129		Notched Wedge Longitudinal Joint	July 1, 2004	Jan. 1, 2007
80182	210	X Notification of Reduced Width	April 1, 2007	
80069		Organic Zinc-Rich Paint System	Nov. 1, 2001	Jan. 1, 2007
80022	211	X Payments to Subcontractors	June 1, 2000	Jan. 1, 2006
80148		Planting Woody Plants	Jan. 1, 2006	
80134		Plastic Blockouts for Guardrail	Nov. 1, 2004	Jan. 1, 2007
80119		Polyurea Pavement Marking	April 1, 2004	Jan. 1, 2007
80170	213	X Portland Cement Concrete Plants	Jan. 1, 2007	
80171	215	X Precast Handling Holes	Jan. 1, 2007	
80015		Public Convenience and Safety	Jan. 1, 2000	
34261		Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
80157	217	X Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
80172	219	X Reclaimed Asphalt Pavement (RAP)	Jan. 1, 2007	Aug. 1, 2007
80160	225	X Reflective Crack Control Treatment	April 1, 2006	Jan. 1, 2007
80183	228	X Reflective Sheeting on Channelizing Devices	April 1, 2007	
80151	229	X Reinforcement Bars	Nov. 1, 2005	Jan. 1, 2007

<u>File Name</u>	<u>Pg#</u>		<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80164			Removal and Disposal of Regulated Substances	Aug. 1, 2006	Jan. 1, 2007
80184	231	X	Retroreflective Sheeting, Nonreflective Sheeting, and Translucent Overlay Film for Highway Signs	April 1, 2007	
80131			Seeding	July 1, 2004	Aug. 1, 2007
80152	232	X	Self-Consolidating Concrete for Cast-In-Place Construction	Nov. 1, 2005	Jan. 1, 2007
80132	237	X	Self-Consolidating Concrete for Precast Products	July 1, 2004	Jan. 1, 2007
80127	239	X	Steel Cost Adjustment	April 2, 2004	April 1, 2007
80153			Steel Plate Beam Guardrail	Nov. 1, 2005	Aug. 1, 2007
* 80191			Stone Gradation Testing	Nov. 1, 2007	
80143	243	X	Subcontractor Mobilization Payments	April 2, 2005	
80075			Surface Testing of Pavements	April 1, 2002	Jan. 1, 2007
80087	244	X	Temporary Erosion Control	Nov. 1, 2002	Aug. 1, 2007
80176	246	X	Thermoplastic Pavement Markings	Jan. 1, 2007	
80161			Traffic Signal Grounding	April 1, 2006	Jan. 1, 2007
20338	248	X	Training Special Provisions	Oct. 15, 1975	
80154			Turf Reinforcement Mat	Nov. 1, 2005	Jan. 1, 2007
80185			Type ZZ Retroreflective Sheeting, Nonreflective Sheeting, and Translucent Overlay Film for Highway Signs	April 1, 2007	
80162			Uninterruptable Power Supply (UPS)	April 1, 2006	Jan. 1, 2007
80149			Variable Spaced Tining	Aug. 1, 2005	Jan. 1, 2007
80163	251	X	Water Blaster with Vacuum Recovery	April 1, 2006	Jan. 1, 2007
80071			Working Days	Jan. 1, 2002	

The following special provisions have been **deleted** from use:

80139 Portland Cement This special provision is now covered in a BMPR Policy Memorandum "Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants".

80120 Precast, Prestressed Concrete Members This special provision is now in BMPR's "Manual for Fabrication of Precast Prestressed Concrete Products".

80145 Suspension of Slipformed Parapets This special provision is no longer required.

80187 Legal Requirements to be Observed

The following special provisions are either in the 2007 Standard Specifications or the 2007 Recurring Special Provisions:

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location</u>	<u>Effective</u>	<u>Revised</u>
80156	Aggregate Shipping Tickets	Articles 1003.01(f), 1004.01(f) & 1005.01(d)	Jan. 1, 2006	
80128	Authority of Railroad Engineer	Article 105.02	July 1, 2004	
80065	Bituminous Base Course/Widening Superpave	Sections 355, 356, 1030 & 1102	April 1, 2002	Aug. 1, 2005
80050	Bituminous Concrete Surface Course	Article 406.13(b)	April 1, 2001	April 1, 2003
80066	Bridge Deck Construction	Sections 503, 1004, 1020 & 1103	April 1, 2002	April 1, 2004
80118	Butt Joints	Article 406.08	April 1, 2004	April 1, 2005
80031	Calcium Chloride Accelerator for Portland Cement Concrete Patching	Recurring # 28	Jan. 1, 2001	
80077	Chair Supports	Article 421.04(a)	Nov. 1, 2002	Nov. 2, 2002
80051	Coarse Aggregate for Trench Backfill, Backfill and Bedding	Sections 208, 542, 550, 1003 & 1004	April 1, 2001	Nov. 1, 2003

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location</u>	<u>Effective</u>	<u>Revised</u>
80094	Concrete Admixtures	Article 1020.05(b) & Section 1021	Jan. 1, 2003	July 1, 2004
80112	Concrete Barrier	Section 637	Jan. 1, 2004	April 2, 2004
80102	Corrugated Metal Pipe Culverts	Articles 542.04(d), 1006.01(a)(4) & 1006.03(d)	Aug. 1, 2003	July 1, 2004
80114	Curing and Protection of Concrete Construction	Sections 503, 1020 & 1022	Jan. 1, 2004	Nov. 1, 2005
80146	Detectable Warnings	Section 424	Aug. 1, 2005	
80144	Elastomeric Bearings	Section 1083	April 1, 2005	
31578	Epoxy Coating on Reinforcement	Sections 420, 483 & 606	April 1, 1997	Jan. 1, 2003
80041	Epoxy Pavement Marking	Article 1095.04	Jan. 1, 2001	Aug. 1, 2003
80055	Erosion and Sediment Control Deficiency Deduction	Article 105.03(a)	Aug. 1, 2001	Nov. 1, 2001
80103	Expansion Joints	Article 420.05(d)	Aug. 1, 2003	
80101	Flagger Vests	Article 701.13	April 1, 2003	Jan. 1, 2006
80079	Freeze-Thaw Rating	Article 1004.02(f)	Nov. 1, 2002	
80072	Furnished Excavation	Section 204	Aug. 1, 2002	Nov. 1, 2004
80054	Hand Vibrator	Article 1103.17(a)	Nov. 1, 2003	
80147	Illuminated Sign	Sections 801, 891 & 1084	Aug. 1, 2005	
80104	Inlet Filters	Section 280 & Article 1081.15(h)	Aug. 1, 2003	
80080	Insertion Lining of Pipe Culverts	Section 543 & Article 1040.04	Nov. 1, 2002	Aug. 1, 2003
80150	Light Emitting Diode (LED) Pedestrian Signal Head	Sections 801, 881, & 1078	Nov. 1, 2005	April 1, 2006
80067	Light Emitting Diode (LED) Signal Head	Sections 801, 880 & 1078	April 1, 2002	Nov. 1, 2005
80081	Lime Gradation Requirements	Article 1012.03	Nov. 1, 2002	
80133	Lime Stabilized Soil Mixture	Section 310	Nov. 1, 2004	April 1, 2006
80158	Manholes	Article 1042.10	April 1, 2006	
80137	Minimum Lane Width with Lane Closure	Article 701.06	Jan. 1, 2005	
80138	Mulching Seeded Areas	Section 251 & Article 1081.06(a)(4)	Jan. 1, 2005	
80116	Partial Payments	Article 109.07	Sept. 1, 2003	
80013	Pavement and Shoulder Resurfacing	Recurring # 14	Feb. 1, 2000	July 1, 2004
53600	Pavement Thickness Determination for Payment	Articles 407.03, 407.10, 420.03, 420.15 & 421.04	April 1, 1999	Jan. 1, 2004
80155	Payrolls and Payroll Records	Recurring #1 & #5	Aug. 10, 2005	
80130	Personal Protective Equipment	Article 701.12	July 1, 2004	
80073	Polymer Modified Emulsified Asphalt	Article 1032.06	Nov. 1, 2002	
80124	Portable Changeable Message Signs	Articles 701.15(j), 701.20(h) & 1106.02(j)	Nov. 1, 1993	April 2, 2004
80083	Portland Cement Concrete	Articles 1103.01 & 1103.02	Nov. 1, 2002	
80036	Portland Cement Concrete Patching	Sections 442, 701, 1013 & 1020	Jan. 1, 2001	Jan. 1, 2004
419	Precast Concrete Products	Sections 540, 1020 & 1042	July 1, 1999	Nov. 1, 2004
80084	Preformed Recycled Rubber Joint Filler	Articles 503.02, 637.02 & 1051.10	Nov. 1, 2002	
80121	PVC Pipeliner	Recurring # 18	April 1, 2004	April 1, 2005
80159	Railroad Flaggers	Article 107.12	April 1, 2006	
80122	Railroad, Full-Actuated Controller and Cabinet	Articles 857.04, 1073.01(c)(2) & 1074.03(a)(5)e.	April 1, 2004	
80105	Raised Reflective Pavement Markers (Bridge)	Articles 781.03(a), 781.05 & 1096.01(b)	Aug. 1, 2003	
80011	RAP for Use in Bituminous Concrete Mixtures	Sections 1030 & 1031	Jan. 1, 2000	April 1, 2002
80032	Remove and Re-Erect Steel Plate Beam Guardrail and Traffic Barrier Terminals	Section 633	Jan. 1, 2001	Jan. 1, 2005

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location</u>	<u>Effective</u>	<u>Revised</u>
80085	Sealing Abandoned Water Wells	Section 672	Nov. 1, 2002	
80096	Shoulder Rumble Strips	Section 642	Jan. 1, 2003	
80140	Shoulder Stabilization at Guardrail	Article 630.06	Jan. 1, 2005	
80135	Soil Modification	Section 302	Nov. 1, 2004	April 1, 2006
80070	Stabilized Subbase and Bituminous Shoulders Superpave	Sections 312, 482, 1030 & 1102	April 1, 2002	Aug. 1, 2005
80086	Subgrade Preparation	Section 301	Nov. 1, 2002	
80010	Superpave Bituminous Concrete Mixtures	Sections 406, 407 & 1030	Jan. 1, 2000	April 1, 2004
80039	Superpave Bituminous Concrete Mixtures (Low ESAL)	Sections 406, 407 & 1030	Jan. 1, 2001	April 1, 2004
80092	Temporary Concrete Barrier	Section 704	Oct. 1, 2002	Nov. 1, 2003
80008	Temporary Module Glare Screen System	Recurring # 22	Jan. 1, 2000	
80106	Temporary Portable Bridge Traffic Signals	Recurring # 23	Aug. 1, 2003	
80098	Traffic Barrier Terminals	Section 631	Jan. 1, 2003	
57291	Traffic Control Deficiency Deduction	Article 105.03(b)	April 1, 1992	Jan. 1, 2005
80107	Transient Voltage Surge Suppression	Article 1074.03(a)(4)	Aug. 1, 2003	
80123	Truck Bed Release Agent	Article 1030.08	April 1, 2004	
80048	Weight Control Deficiency Deduction	Article 109.01	April 1, 2001	Aug. 1, 2002
80090	Work Zone Public Information Signs	Recurring # 24	Sept. 1, 2002	Jan. 1, 2005
80125	Work Zone Speed Limit Signs	Article 701.14(b)	April 2, 2004	Jan. 1, 2006
80126	Work Zone Traffic Control	Articles 701.19 & 701.20	April 2, 2004	Nov. 1, 2005
80097	Work Zone Traffic Control Devices	Section 701 & Article 1106.02	Jan. 1, 2003	Nov. 1, 2004

The following special provisions require additional information from the designer. The additional information needs to be included in a separate document attached to this check sheet. The Project Development and Implementation section will then include the information in the applicable special provision. The Special Provisions are:

- Building Removal-Case I
- Building Removal-Case II
- Building Removal-Case III
- Building Removal-Case IV
- DBE Participation
- Material Transfer Device
- Railroad Protective Liability Insurance
- Training Special Provisions
- Working Days

Ridge Avenue STP Improvement
Section No. 06-00241-00-PV
Job No.: C-91-145-07
Project No. HPP-0703(209)
Contract No.: 83968

SPECIAL PROVISIONS

STATE OF ILLINOIS SPECIAL PROVISIONS

The following Special Provisions supplement the specifications listed in the table below, which apply to and govern the proposed improvement designated as MFT Section Number 06-00241-00-PV and in case of conflict with any part or parts of said specifications, the said Special Provisions shall take precedence and govern.

SPECIFICATION	ADOPTED/DATED
Standard Specifications for Road and Bridge Construction	January 1, 2007
Manual on Uniform Traffic Control Devices for Streets and Highways Illinois Supplement	2000 Edition December 2000
Supplemental Specifications , Recurring Special Provisions, and BDE Special Provisions (indicated on the sheets included herein)	Latest Edition
Standard Specifications for Water & Sewer Main Construction In Illinois	May 1996, Fifth Edition

DEFINITIONS

Throughout these Special Provisions the following definitions shall apply:

"City" – City of Evanston

"County" - Cook County Highway Department

"Department" - Illinois Department of Transportation

"Engineer" - Resident Engineer

LOCATION OF PROJECT

This improvement includes Ridge Avenue from Howard Street to Lyons Street located in the City of Evanston, Cook County, Illinois. The total length of improvement is 2.08 miles.

DESCRIPTION OF PROJECT

Improvements shall consist of resurfacing Ridge Avenue to provide two 9-foot through lanes in each direction with a pavement width of 36 feet face-to-face of curb. The gutter flag will be paved over resulting in a Type B curb. There will be no left or right turn channelization on Ridge Avenue. The 1.5 to 2-foot carriage walk along the back of curb at various locations along both sides of Ridge Avenue will be reconstructed. The existing retaining wall along the west side of Ridge Avenue from Station 194+28 to 204+18 and 215+58 to 224+56 will be maintained.

The work includes curb and gutter removal and replacement, hot-mix asphalt surface removal (variable depth), pavement patching, portland cement concrete pavement widening, an enclosed drainage system, as well as pavement marking, signing, landscape restoration, and all incidental and collateral work necessary to complete the project as shown on the plans and as described within the project specifications.

GENERAL CONDITIONS

The Contractor's attention is directed to the following:

1. Should the Contractor desire to obtain water for construction purposes from the local area, the Contractor will be responsible for making arrangements through the Evanston Public Works Department. Evanston Public Works will instruct the Contractor where a potable water supply from a hydrant near the work site is located. The City shall meter the potable water used by the Contractor and the Contractor will be charged for the water used at the City rates. The Contractor is responsible for the transportation of the water to the site where needed. The cost of transporting the water shall be considered incidental to the contract. All aspects of the use of the water by the Contractor are considered incidental to the contract.
2. Working Hours / Working Days - Construction activities may occur between 7:00 a.m. and 7:00 p.m., Monday through Friday, and 8:30 a.m. to 5:00 p.m. on Saturdays. Construction activities on Sundays are prohibited. No work will be performed on holidays observed in Illinois. Construction activities are defined as the operation of heavy equipment, to include but not limited to all construction trucks and equipment. This is to include the warming up of any piece of equipment or turning on the engines. Construction activities shall not begin before 7:00 a.m.
3. Inspection and Layout - The Contractor shall be responsible for having the finished work conform to the lines, grades, elevations, and dimensions called for in the plans. The Contractor shall be held responsible for the quality and completeness of his work. The

Engineer is the City's representative to verify quality and completeness. Any construction layout necessary shall be coordinated through the Resident Engineer. The Contractor shall exercise care in the preservation of stakes and bench marks and shall have them reset at his/her expense when any are damaged, lost, displaced, or removed or otherwise obliterated.

4. Temporary Toilet - The Contractor shall provide a temporary toilet facility for the use of all contractors' personnel employed on the work, and shall maintain same in proper sanitary condition. At completion, the facility shall be removed and the premises left clean. The Engineer shall approve the location of the temporary toilet. The cost of this facility is considered incidental to the contract.
5. Disposal of Waste Excavated Material - The Contractor shall remove from the project site all unsuitable excavated material. This material will be classified as all material that the Engineer deems unsuitable, such as rebar, abandoned wire, etc. The waste excavated material shall not be deposited on public or private property unless the Contractor first obtains the written permission from the property owner or the authorized representative of the appropriate public agency. Provisions of Article 202.03 Standard Specifications shall be adhered to. The removal of unsuitable material from the site will be incidental to this contract and no compensation will be paid.

The cost of complying with the above General Conditions shall be considered incidental to the contract unless specifically covered elsewhere in the Special Provisions.

CONSTRUCTION SAFETY AND HEALTH STANDARDS

It is a condition of this contract and shall be made a condition of each subcontract entered into pursuant to this contract that the Contractor and any Subcontractor shall not require any laborer or mechanic employed in performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous to their health or safety, as determined under Federal Construction Safety and Health Standards.

KEEPING ROADS OPEN TO TRAFFIC

All roads shall remain open to traffic. The Contractor may close one lane because of construction only between the hours of 9:00 AM and 3:00 PM. The Contractor shall maintain one-way traffic during these restricted hours with the use of signs and flagmen as shown on the Traffic Control Standards. Two lanes of traffic will be maintained between 3:00 PM and 9:00

AM and when no construction activities are being carried out. The restricted lane closure time provision may be waived at the Resident Engineer's discretion.

When necessary to close one lane because of construction, the Contractor shall maintain one-way traffic during construction hours with the use of signs and flagmen as shown on the Traffic Control Standards. Two lanes of traffic will be maintained during nights and weekends when no construction activities are being carried on.

CONTRACT COMPLETION DATE AND INTERIM COMPLETION DATES

It is the intent of the City that this project be constructed in an orderly and timely manner. Toward this end, the Contractor shall take special note of the provisions of Article 105.06, Article 108.01 paragraph 2, and Article 108.02 of the Standard Specifications which shall be adhered to.

The Contractor shall coordinate all work between their forces and subcontractors to enable completion within the interim completion dates and the contract completion date, and at the Engineer's Direction.

Interim Completion Date For Stage 1:

The Contractor shall complete, on or before 11:59 P.M. on Wednesday, July 2, 2008, all portions of the work as shown on the contract drawings and open to traffic Stage 1 of the Ridge Avenue improvements.

Interim Completion Date For Stage 2:

The Contractor shall complete, on or before 11:59 P.M. on Thursday, August 28, 2008, all portions of the work as shown on the contract drawings relating to Stage 2 of the Ridge Avenue improvements.

Interim Completion Date For Final Stage 1 and Final Stage 2:

The Contractor shall complete, on or before 11:59 P.M. on Thursday, November 6, 2008, all portions of the work as shown on the contract drawings relating to Final Stage 1 and Final Stage 2 of the Ridge Avenue improvements.

Contract Completion Date:

The Contractor shall complete, on or before 11:59 P.M. on Friday, November 21, 2008, all portions of the work as shown on the contract drawings relating to the Ridge Avenue improvements.

COMMENCEMENT OF STAGED WORK

In accordance with the Standard Specifications, it is anticipated that the Notice to Proceed will be issued after the award of contract; including a Commencement of Staged Work date no earlier than April 1, 2008. There shall be no damages or additional compensation due to the Contractor for delays, if any, in issuing the Notice to Proceed.

LIQUIDATED DAMAGES FOR NON-COMPLETION

In accordance with the provisions of Article 108.09 of the Standard Specifications, the Contractor shall pay to the City the amount as shown in the schedule of deduction, not as a penalty but as liquidated damages for each and every calendar day beyond the Interim and Contract Completion Date stipulated in the Special Provision for Contract Completion Date And Interim Completion Dates that the work, or any part thereof, remains incomplete.

PAVEMENT MARKING PAINT

In addition to the requirements of Article 105.09 of the Standard Specifications, the Contractor shall furnish, at their expense, white, pink or purple pavement marking paint in aerosol cans, for use by the Engineer. The quality of the marking paint shall be as manufactured by Aervoe-Pacific Co. (distributed by Municipal Marking Distributors, Inc., Dundee, IL) or approved equal. The Contractor and subcontractors shall only use these same colors for their own markings, therefore, not using J.U.L.I.E. utility colors.

FINAL SIGN PLACEMENT ON CONSTRUCTION PROJECTS

All signs removed shall be reinstalled 16 to 18 feet off the edge of pavement where possible. In curb sections this will vary and will be determined by the jurisdictional agency (Cook County, City, or IDOT) or as directed by the Engineer.

All single sign installations shall be installed with the bottom of the sign 5 feet above edge of pavement in rural districts, and 7 feet above the edge of pavement in business, commercial or residential districts. On installations having two or more signs, the bottom of the lowest sign shall be 4 feet above edge of pavement.

All signs replaced will be erected using new "Telespar" system metal bases cut 42 inches long from 2 1/4 inch square material. They are to be driven into solid ground using pneumatic driver. This work will not be paid for separately but shall be considered incidental to the contract.

CONCRETE BREAKERS

When removing curb and gutter, pavement or any other structure, the Contractor shall take every precaution necessary to ensure that there will be no damage to underground public or private

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utilities. Under no circumstances will the use of a frost ball concrete breaker be allowed.

STATUS OF UTILITIES TO BE ADJUSTED

Effective: January 30, 1987

Revised: July 1, 1994

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

<u>Name of Utility</u>	<u>Type</u>	<u>Location</u>	<u>Estimated Dates for Start and Completion of Relocation or Adjustments</u>
Nicor	Relocation/ Replacement	Throughout	August 07 to November 07

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

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Ridge Avenue STP Improvement
Section No. 06-00241-00-PV
Job No.: C91-145-07
Project No. HPP-0703(209)
Contract No.: 83968

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PROTECTION OF EXISTING DRAINAGE FACILITIES DURING CONSTRUCTION

All existing drainage structures are to be kept free of debris resulting from construction operations. All work and material necessary to prevent accumulation of debris in the drainage structures will be considered as incidental to the contract. Any debris in the drainage structures resulting from construction operations shall be removed at the Contractor's own expense, and no extra compensation will be allowed. Should reconstruction or adjustment of a drainage structure be required by the Engineer in the field, the necessary work and payment shall be done in accordance with Section 602 and Article 104.02 respectively of the "Standard Specifications".

During construction, if the Contractor's forces encounter or otherwise become aware of any sewers, underdrains or field drains within the right-of-way other than those shown on the plans, they shall inform the Engineer. The Engineer shall direct the work necessary to maintain or replace the facilities in service, and to protect them from damage during construction if maintained. Existing facilities to be maintained that are damaged because of non-compliance with this provision shall be replaced at the Contractor's own expense. Should the Engineer have directed the replacement of a facility, the necessary work and payment shall be done in accordance with Sections 550 and 601 and Article 104.02 respectively of the "Standard Specifications".

MAINTENANCE OF ROADWAYS

Effective: September 30, 1985

Revised: November 1, 1996

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

provided by the Contractor as required by the Engineer.

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

RESPONSIBILITY FOR VANDALISM

The contractor shall be responsible for the defacement of any concrete pours before they have set up. Concrete sidewalk, driveway, or curbing that has been defaced, in the opinion of the Engineer, shall be removed and replaced by the contractor at his expense.

CONSTRUCTION DEBRIS

Add the following to the third paragraph of Article 202.03 of the Standard Specifications:

“The Contractor shall not conduct any generation, transportation, or recycling of construction or demolition debris, clean or general or uncontaminated soil generated during construction, remodeling, repair, and demolition of utilities, structures, and roads that is not commingled with any waste, without the maintenance of documentation identifying the hauler, generator, place of origin of the debris or soil, the weight or volume of the debris or soil, and the location, owner, and operator of the facility where the debris or soil was transferred, disposed, recycled or treated. This documentation must be maintained by the Contractor for 3 years.”

AGGREGATE SURFACE COURSE FOR TEMPORARY ACCESS

Effective: April 1, 2001

Revised: January 2, 2007

Revise Article 402.10 of the Standard Specifications to read:

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

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

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

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

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

Add the following to Article 402.12 of the Standard Specifications:

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

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

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

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

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

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

BASE FOR TELESCOPING SIGN SUPPORT, SPECIAL

Description: This work shall consist of furnishing and installing a permanent underground base for a 2"x2" Telescoping Steel Sign Support Post. This base will be required when the support signs are to be installed on sidewalks, median islands or other concrete locations.

Materials shall be in accordance with the following;

1. STEEL TUBE. The steel tube shall have an outside dimension of 70mm x 70mm (2.756 inches by 2.756 inches). The length of the square tube shall be a minimum of 300mm (11.81 inches). The wall thickness must be 3.2mm (.125 inches). Two 90° flanges are to be welded on opposing sides of the square tube. The flanges will be located on the center line of the width of the tube, 152mm (6 inches) from the end of the tube. The flange will have a wall thickness of 3.2mm (.125 inches) and a total length of 63.5mm (2.50 inches). The entire tube is to be hot dipped galvanized so that the minimum uniform zinc coating is .053mm (.0021 inches).

2. POLYURETHANE SLEEVE. The polyurethane sleeve will consist of two sleeves. The lower sleeve will have a base which measures 78mm x 78mm (3.07 inches x 3.07 inches) with a minimum thickness of 5mm (.19 inches). The lower sleeve will narrow to 63.5mm (2.5 inches) where the sleeve fits inside the steel tube. The sleeve will have a thickness of .12mm (.47 inches). The overall height of the sleeve will measure 70mm (2.75 inches) with 65mm (2.55 inches) fitting inside the tube. A tapered opening will be 60mm (2.36 inches) deep to allow the square post to easily fit inside the sleeve. The beginning of the taper will measure 55mm (2.16 inches) and narrow to 51.1mm (2.03 inches) and at the end of the 12mm (.47 inch) long taper.

The upper sleeve will have a 52mm x 52mm (2.05 inch x 2.05 inch) opening to allow passage of 2"x2" square tube. The top of the upper sleeve will have flange 24mm (.93 inch) thick which measures 65mm x 65mm (2.55 inches x 2.55 inches) on the outside dimension. The flange tapers to a thickness of 5mm (.19 inches) to create an overall outside dimension of 79mm x 79mm (3.11 inches x 3.11 inches). The upper sleeve will measure 65mm x 65mm (2.55 inches x 2.55 inches) where the sleeve fits inside the galvanized steel tube. The thickness of the sleeve inside the tube will be 14mm (.55 inches). The sleeve has a surface of 70mm (2.75 inches) in length.

The polyurethane has the following general properties:

Shore hardness A	65	ASTM D2240
Tensile strength	22.6 Mpa	
Split tear	22 Kn/m	ASTM D470
Compression set	16%	ASTM D395

The base will be measured for pavement in individual units complete in place.

This work will be paid for at the contract unit price each BASE FOR TELESCOPING SIGN SUPPORT, SPECIAL.

BITUMINOUS MATERIALS (PRIME COAT)

Prime coat shall meet the specifications of Article 406.06 (b) of the "Standard Specifications for Road and Bridge Construction" with the following revisions and additions:

Emulsified asphalt shall only be used between the dates of May 15th and September 1st. On or before May 15th and on or after September 1st, RC-70 asphalt shall be used in lieu of emulsified asphalt.

On days between May 15th and September 1st, when the air temperature is in question, the exact type of priming asphalt shall be determined by the Engineer.

Shields, covers or other suitable equipment shall be provided by the Contractor to protect the motoring public, adjoining pavement, curbs, or structures during the application of prime coat. The Contractor will be required to present a weight ticket of the truckload prior to applying the prime coat. After application the truck shall then be weighed again in order to determine the net weight of prime coat that has been placed. Both tickets shall be stamped by the certified weighmaster.

The Contractor shall erect (to the Engineer's satisfaction) 36 inch minimum FRESH OIL AHEAD signs prior to the prime coat application. Prime Coat material shall be SS-1 on existing bituminous surfaces and MC30 on aggregate surfaces (subject to the date and temperature restrictions indicated above). This work shall be paid for at the contract unit price per gallon for BITUMINOUS MATERIALS (PRIME COAT).

CHANGEABLE MESSAGE SIGN, SPECIAL

This work consists of furnishing, placing and maintaining changeable message sign(s) at the location(s) shown on the plans or as directed by the Engineer.

The sign(s) shall be trailer mounted. The message panel shall be at least 2.1 m (7 ft) above the pavement, present a level appearance, and be capable of displaying up to eight characters in each of three lines at a time. Character height shall be 450 mm (18 in.).

The message panel shall be of either a bulb matrix or disc matrix design controlled by an onboard computer capable of storing a minimum of 99 programmed messages for instant recall. The computer shall also be capable of being programmed to accept messages created by the operator via an alpha-numeric keyboard and able to flash any six messages in sequence. The Contractor is required to promptly program and/or reprogram the computer to provide the messages as directed by the Engineer.

The message panel shall be visible from 400 m (1/4 mile) under both day and night conditions. The letters shall be legible from 250 m (750 ft). Whenever the sign(s) are displaying messages, they shall be considered a traffic control device. At all times when no message is displayed, they shall be considered equipment.

The message sign shall include automatic dimming for nighttime operation and a power supply capable of providing 24 hours of uninterrupted service.

The Contractor is required to provide all preventive maintenance efforts s(he) deems necessary to achieve uninterrupted service. If service is interrupted for any cause and not restored within 24 hours, the Engineer shall cause such work to be performed as may be necessary to provide this service. The cost of such work shall be borne by the Contractor or deducted from current or future compensation due Contractor.

The furnishing, placing, and maintaining of Portable Changeable Message Sign(s) shall be paid for per each sign as CHANGEABLE MESSAGE SIGN, SPECIAL.

Note: Upon the completion of construction, the changeable message sign shall become the property of the City of Evanston. Delivery of the changeable message sign shall be made to the respective City of Evanston Public Works Department/Facility or as directed by the Engineer. Such delivery is incidental to the contract.

CLASS B PATCHES

This work shall be done in accordance with Section 442 of the Standard Specifications except as modified herein.

442.06 Class B Patching. Add the following to the end of this Article:

When the existing patching areas include an asphalt surface, at locations designated by the Engineer the CLASS B PATCHES shall include Hot-Mix Asphalt Binder Course, IL-19.0, N50 placed to match the existing pavement removed for thickness over the entire area after the necessary patch corrections have been made.

442.11 Basis of Payment. Revise the second paragraph of this Article to Read:

"This work will be paid for at the contract unit price per square yard for CLASS B PATCHES, regardless of the thickness required to match the existing portland cement concrete pavement."

CONCRETE PAVER PAVEMENT:

This work shall consist of installing a brick driveway or sidewalk as shown in the Plans and in accordance with the included Local Roads Special Provision – LRS14 except as modified herein. This work shall include the installation of a minimum 8 inches of Aggregate Base Course, Type B, in accordance with Section 351 of the Standard Specifications. This work shall also include installing edge restraints, spreading, compacting and leveling (with a screed) 1 inch of bedding sand, filling and brushing the joints with fine sand, and compacting the brick pavers with a vibrating plate compactor.

Brick pavement shall be installed by an experienced contractor. The contractor shall submit written documentation and references of brick pavement work to the Engineer prior to the start of construction.

The layout and pattern shall match that of existing driveway apron or sidewalk. The Contractor shall make record of the existing layout and pattern prior to the removal of the existing driveway apron to ensure that the replaced apron can be replaced to match the existing apron prior to construction.

Existing bricks shall be salvaged and stored within the right-of-way and reused in the reconstruction of the brick apron. If additional bricks are required to finish the apron or to replace damaged bricks the color and shape of the brick paving units shall match the paving units of the existing driveway pavement and requires inspection and approval by the Engineer.

Plastic (rigid PVC), steel, timber, aluminum, cut stone, or precast concrete can be used as edge restraints. Edge restraints can also be constructed on-site with Portland Cement Concrete.

This work shall be paid for at the contract unit price per square yard for CONCRETE PAVER PAVEMENT.

CURB AND GUTTER REMOVAL AND REPLACEMENT

This work shall be performed in accordance with Section 440 and Section 606 of the "Standard Specifications", Standard Drawing 606001, and Design Standard Drawing BD-24 with the finished (exposed) curb height constructed having the appearance of Type B-6 curb with the following exceptions:

In addition to the requirements of Standard Drawing 606001, 1" expansion joints shall be constructed at maximum intervals of 150 feet.

Concrete curing methods shall be limited to methods as specified in Article 1020.13 (a) [1], [2] and [3].

The end treatments as specified in the plans shall conform to the special details. Where no end treatment is specified, curb and gutter endings shall be transitioned to a flat section in 6 feet.

Transitions between Type B-6.12 Curb and Gutter and Type B Curb will be paid for at the contract unit price per foot for CURB AND GUTTER REMOVAL AND REPLACEMENT.

This work will be paid for at the contract unit price per foot for CURB AND GUTTER REMOVAL AND REPLACEMENT.

CURB RAMPS FOR SIDEWALKS

Curb ramps for sidewalks shall be constructed in accordance with the Highway Standard 424001. Ramps will be constructed at all driveway and crosswalk locations or as designated by the Engineer. The Engineer shall determine which type of ramps shall be constructed, and the curb and gutter will be installed accordingly.

The cost of this work will be included in the contract unit price per square foot for PORTLAND CEMENT CONCRETE SIDEWALK, 5" and per foot for CONCRETE CURB AND GUTTER

REMOVAL AND REPLACEMENT of the type specified.

DETECTABLE WARNINGS

This work shall consist of the construction of Detectable Warnings at the locations shown on the plans in accordance with Section 424 of the Standard Specifications except as noted herein.

Detectable warnings shall be a cast-in-place system. Stamped concrete will not be allowed. The color of the detectable warning surface shall be brick red, or approved equivalent. Detectable warnings shall be cast-in-place systems manufactured by Detectable Warning Systems, Inc (EZ Set Polymer Concrete Panel), Armor Tile (Cast in Place systems), or approved equal.

The detectable warning panels shall be installed according to the manufacturer's recommendations. The panels shall be placed into sidewalk meeting the requirements listed in the special provision "Portland Cement Concrete Sidewalk, 5".

Measurement for detectable warnings shall be per square foot.

Payment for DETECTABLE WARNINGS will be made at the contract unit price per square foot. Payment shall be full compensation for all materials, labor, excavation, portland cement concrete sidewalk, aggregate base, equipment and incidentals to complete the item as shown on the plans and as specified.

DOMESTIC WATER SERVICE BOX TO BE ADJUSTED (SPECIAL):

This work shall include the vertical adjustment of a cast iron extension for existing domestic water service boxes to the finished elevation or as directed by the Engineer, and shall be done in accordance with the applicable portions of Section 565 of the Standard Specifications. Sufficient space and length along the extension must be provided in order to freely raise or lower the extension. Extreme care shall be taken to keep the inside of the extension and box completely free of any material which would prevent the opening and closing of the water valve. Should the box be damaged or filled, it shall be repaired or cleaned by the Contractor and no additional compensation shall be made for this work.

A quantity of this pay item has been included in the contract for the purpose of establishing a contract unit price should the domestic water service boxes need to be adjusted as determined by the Engineer or City.

Basis of Payment. This work will be paid for at the contract unit price each for DOMESTIC WATER SERVICE BOX TO BE ADJUSTED (SPECIAL).

DRILL AND GROUT DOWEL BARS AND TIE BARS

Work under this item shall be performed in accordance with sections 442, 420, and 1000 of the Standard Specifications, except as herein modified.

This work shall consist of furnishing and installing 18", 24", and 30" long, No. 6 epoxy coated dowel and tie bars in existing Portland Cement Concrete (PCC) bases where new PCC Curbs and Gutters and new PCC Bases are poured against existing PCC Bases at locations shown on the Plans and as designated by the Engineer.

Materials shall meet the requirements of Article 1006.06 of the Standard Specifications for Dowel Rods and Article 1024.01 of the Standard Specifications for Nonshrink Grout or one of the approved chemical adhesives as listed by the Bureau of Materials and Physical Research. Epoxy adhesives shall not be allowed.

Bars shall be located on 12", 24", and 30" centers as indicated on the plans and standards. Individual bar locations shall be shifted at least 5-inches away from existing cracks, joints and unsound concrete. Holes for dowel bars shall be drilled with suitable equipment for this purpose to the depth shown and to a diameter large enough to allow grouting around the dowel bar or tie bar. The dowel bars or tie bar shall be secured in the drilled holes with nonshrink grout. The grout shall be allowed to cure before the concrete for new curb and gutters and bases are poured.

This work will be not be paid for separately but instead shall be considered as incidental to cost of CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT, CLASS B PATCHES and PORTLAND CEMENT CONCRETE BASE COURSE of the size and thickness indicated on the plans.

DRIVEWAY PAVEMENT REMOVAL

This work shall be done in accordance with Section 440 of the "Standard Specifications" and includes all driveway pavement types including aggregate, aggregate bituminous surfaced, and/or portland cement concrete.

This work will be measured and paid for at the contract unit price per square yard for DRIVEWAY PAVEMENT REMOVAL.

DUST CONTROL WATERING

This work shall consist of applying a dust retardant to the project roadways at the request of the Engineer.

This work shall be done in accordance with Article 107.36 of the “Standard Specifications” except as modified herein.

The Contractor may use any dust retardant he so chooses as long as the specified dust retardant has been approved by the Engineer. Should the Contractor choose to use dust retardant to aid in the prosecution of his/her work, the product used must be approved by the Engineer. If applied at the discretion of the Contractor, no additional compensation shall be allowed.

The dust retardant shall consist of a non-toxic, non-hazardous, and non-flammable material.

For this pay item, one unit of **DUST CONTROL WATERING** is considered to be 1000 gallons of the approved dust retardant used. The Contractor shall ensure that any piece of equipment used for the applying of the dust retardant shall be equipped with a metering device to account for the quantity of dust retardant used. For each day that dust retardant is applied, the Contractor and the Engineer shall agree on the volume of dust retardant used.

This work shall be paid for at the contract unit price per unit for **DUST CONTROL WATERING**, which price shall include all labor, materials, and equipment necessary to perform the work herein.

EARTH EXCAVATION

This work shall be performed in accordance with Section 202 of the Standard Specifications with the following alterations:

Add the following:

Construction Requirements. The following is an estimated list of items of work for bidding information purposes only, and describes the essential elements of the **EARTH EXCAVATION** pay item:

ITEM	UNIT	QUANTITY
Profile Changes & Overcut within the Right-of-Way and Proposed Sidewalk	CU YD	2100

Proposed Grade Changes are defined as the quantity of excavation required for re-grading to match the proposed grade at the right-of-way or sidewalk. Proposed Sidewalk is defined as the quantity of excavation necessary to place sub-base and sidewalk as further described elsewhere in these contract documents. The above quantities include any required topsoil stripping but do NOT include undercutting of unsuitable sub-grade soils, which is paid for separately under the contract pay item REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL.

For quantity estimation purposes, it has been assumed that all material excavated as EARTH EXCAVATION shall be removed from the job site by the Contractor. All required embankment shall be paid for as FURNISHED EXCAVATION.

The following is an estimated item of work for bidding information purposes only, and describes the essential elements the REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL pay item.

ITEM	UNIT	QUANTITY
Unsuitable Material / Undercuts	CU YD	267

At locations where existing concrete curb and gutter removal and replacement, pavement patching, and excavation is indicated in the plans, or as otherwise directed by the Engineer, it may be necessary to remove underlying unsuitable soils. It is understood and agreed that the actual need for removal of unsuitable material will be determined in the field at the time of construction by the Engineer. Excavation for the removal of unsuitable soils is to begin at the individual soil boring locations where unsuitable soils are identified (refer to the roadway soils investigation by Midland Standard Engineering & Testing, Inc. Dated Jan. 17, 2007 included herein) and will progress outward from the soil boring location until suitable sub-base material is exposed.

The limits of unsuitable material shown in the plans are estimated, and where unstable soils are encountered the soils removed and replaced will be measured for payment. If unstable soils are not encountered, the quantities will be deducted and no additional compensation will be due the Contractor. All unsuitable material shall be removed from the site and disposed of according to Article 202.03. The resulting excavation shall be backfilled with porous granular embankment, special or as specified elsewhere herein.

EXPLORATION TRENCH , SPECIAL

This work shall be done in accordance with Section 213 of the Standard Specifications except as modified herein. This item shall consist of excavating a trench at the locations directed by the Engineer for the purpose of locating existing TILE LINES, GAS LINES, and other UTILITIES within the construction limits of the proposed improvement.

The trench shall be deep enough to expose the utility, and the width of the trench shall be sufficient to allow proper investigation to determine if the utility needs to be replaced.

The exploration trench shall be backfilled with trench backfill meeting the requirements of the Standard Specifications. This shall be paid for at the contract unit price for trench backfill.

An estimated length of exploration trench has been shown in the summary of quantities to establish a unit price only, and payment shall be based on the actual length of trench explored without a change in unit price because of adjustment in plan quantities.

This work shall be paid for at the contract unit price per foot (regardless of depth) for EXPLORATION TRENCH, SPECIAL, and no extra compensation will be allowed for any delays, inconveniences or damage sustained by the Contractor in performing the work.

FIRE HYDRANT TO BE ADJUSTED

This item consists of vertical adjustment of fire hydrants, including auxiliary valves and valve boxes, that are to remain in place. All applicable portions of Section 564 of the Standard Specifications and Section 45 of the Water and Sewer Specifications shall apply.

Fire Hydrant adjustments shall be accomplished with one extension mechanism. Combining extension mechanisms to achieve the required height will not be allowed.

A quantity of this pay item has been included in the contract for the purpose of establishing a contract unit price should the need arise to adjust the existing fire hydrant as determined by the Engineer or City. This work shall be measured per each hydrant to be adjusted.

This work shall be paid for at the contract unit price each for FIRE HYDRANT TO BE ADJUSTED, which price shall include the labor, equipment and materials necessary to raise or lower existing fire hydrants and auxiliary valves and valve boxes to an elevation acceptable to

the agency maintaining the fire hydrants.

FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)

This work shall consist of adjusting existing structures at locations indicated on the plans. This work shall be performed in accordance with the Bureau of Design Standard for Frames and Lids Adjustment with Milling (BD-8) and Section 602 of the Standard Specifications.

This work shall be measured and paid for at the contract unit price per each for FRAMES AND LIDS TO BE ADJUSTED (SPECIAL) which price shall include all labor, equipment, and materials necessary to perform said work.

HOT MIX ASPHALT MIXTURE IL-4.75 (DISTRICT ONE)

Effective: January 1, 2007

Description. This work shall consist of constructing Hot-Mix Asphalt (HMA) surface course or leveling binder with an IL-4.75 mixture. Work shall be according to Sections 406, 1030, 1031 and 1032 of the Standard Specifications except as modified herein.

Materials.

Fine Aggregate: Revise Note 2 of Article 1030.02 of the Standard Specifications to read:

- (a) Gradation. The fine aggregate gradation for IL-4.75 shall be FA 1, FA 2, or FA 20.

Revise the second sentence of Note 3 of Article 1030.02 of the Standard Specifications to read:

“ For mixtures with an $N_{design} \geq 90$ and for mixture IL-4.75, at least 50 percent of the required fine aggregate fraction shall consist of either stone sand, slag sand, or steel slag meeting the FA/FM 20 gradation.”

When the 4.75 mix is used as leveling binder, steel slag sand will not be permitted.

The fine aggregate quality shall be Class B. The total minus No. 200 (75 μ m) material in the mixture shall be free from organic impurities.

- (b) Reclaimed Asphalt Pavement (RAP). Only processed RAP over 3/8 in. (9.5 mm) screen will be permitted in the 4.75 mm mix. A maximum of 15% RAP will be allowed.
- (c) Asphalt Binder (AB). The AB shall be as indicated in the mixture requirement table shown on the contract plans. If an AB performance grade of SBS/SBR PG 76-22 or SBS/SBR PG 76-28 is specified on the plans, then the AB shall meet the requirements Article 1032.05(b) of the Standard Specifications, and the elastic recovery of the AB used shall be a minimum of 80.

 The AB shall be shipped, maintained, and stored at the mix plant according to the manufacturer's requirements. It shall be placed in an empty tank and not blended with other asphalt cements.
- (d) Mineral Filler. Mineral filler shall conform to the requirements of Article 1011.01 of the Standard Specifications.

Mixture Design.

Add the following to the list of Illinois Modified AASHTO references in Article 1030.04 of the Standard Specifications:

AASHTO T 305 Standard Method of Test for Determination of Draindown Characteristics in Uncompacted Asphalt Mixtures.

Add the following to Article 1030.04(a) of the Standard Specifications:

“(4) IL-4.75 Mixture. The Job Mix Formula (JMF) shall fall within the following limits

Sieve	Percent Passing
1/2 in. (12.5 mm)	100
3/8 in. (9.5 mm)	100
No. 4 (4.75 mm)	90 - 100
No. 8 (2.36 mm)	70 - 90
No. 16 (1.18 mm)	50 - 65
No. 30 (600 µm)	35 - 55
No. 50 (300 µm)	15 - 30
No. 100 (150 µm)	10 - 18
No. 200 (75 µm)	7 - 9

AB Content	7% to 9%
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Add the following to Article 1030.04(b) of the Standard Specifications

“(4) IL 4.75 Mixture.

Volumetric Parameter	Requirement
Design Air Voids	4.0 % at Ndesign 50
Voids in the Mineral Aggregate (VMA)	18.5% minimum
Voids Filled with Asphalt (VFA)	82 - 92%
Dust/AC Ratio	1.0
Density (% of Max Specific Gravity)	93.0 - 97.4
Maximum Drain-down	0.3%

Mixture Production. Plant modifications may be required to accommodate the addition of higher percentages of mineral filler as required by the JMF.

During production, mineral filler shall not be stored in the same silo as collected dust. This may require any previously collected bag house dust in a storage silo prior to production of the IL-4.75 mixture to be wasted. Only metered bag house dust may be returned back directly to the mix. Any additional minus No. 200 (75 µm) material needed to produce the IL-4.75 shall be mineral filler.

As an option, collected bag-house dust may be used in lieu of manufactured mineral filler, provided; 1) there is enough is available for the production of the IL-4.75 mix for the entire project and 2) a mix design was prepared with collected bag-house dust.

The mixture shall be produced within the temperature range recommended by the asphalt cement producer; but not less than 310 °F (155 °C).

The amount of moisture remaining in the finished mixture shall be less than 0.3 percent based on the weight of the test sample after drying.

Mixtures contain steel slag sand or aggregate having absorptions ≥ 2.5 percent shall have a silo storage plus haul time of not less than 1.5 hours.

Control Charts/Limits.

Add the following to Control Limits table in Article 1030.04(d)(4) of the Standard Specifications:

Parameter	Individual Test	Moving Average
% Passing		
No. 16 (1.18 mm)	± 4%	± 3%
No. 200 (75 µm)	± 1.5%	± 1.0%
Asphalt Binder Content	± 0.3%	± 0.2%
Air Voids	± 1.2% (of design)	± 1.0% (of design)

Add the following to the Density Control Limits table in Article 1030.05(d)(4) of the Standard Specifications:

"DENSITY CONTROL LIMITS		
Mixture Composition	Parameter	Individual Test
IL-4.75 ^{2/}	Ndesign = 50	93.0% - 97.4% ^{2/}

2/ Density shall be determined by cores or by correlated, approved thin lift nuclear gauge."

CONSTRUCTION REQUIREMENTS

Placing.

Revise the table in Article 406.05(c) of the Standard Specifications to read:

Leveling Binder	
Nominal, Compacted, Leveling Binder Thickness, in. (mm)	Mixture Composition
≤ 1 1/4 (32)	IL-4.75, IL-9.5 or IL-9.5L
1 1/4 to 2 (32 to 50)	IL-9.5, IL-12.5, or IL-9.5L

Add the following to the end of the first paragraph of Article 406.05(c) of the Standard Specifications:

“Density requirements for IL-4.75 mixture shall apply when the nominal, compacted thickness is 3/4 in. (19 mm) or greater.”

Revise the first and second paragraphs of Article 406.06(b) of the Standard Specifications to read:

“General. The mixture shall be placed on a clean, dry base and when weather conditions are suitable. To avoid blistering, the surface shall be dry for at least 24 hours prior to mixture placement. Work shall not begin when local conditions indicate rain is imminent. The mixture shall be placed when the temperature in the shade is at least 50 °F (10 °C) and the forecast is for rising temperatures. The mixture temperature shall be 310 to 350 °F (155 to 175 °C) and shall be measured in the truck just prior to placement.

When used as leveling binder, the mixture shall be overlaid within five days of being placed.”

Lift Thickness.

Add the following to the end of Article 406.06(d) of the Standard Specifications:

“The minimum and maximum compacted lift thickness for the IL-4.75 mixture shall be 3/4 in. (19 mm) and 1 1/4 in. (32 mm) respectively.”

Compaction.

Add the following after the first paragraph of Article 406.07(a) of the Standard Specifications:

“The compaction operation shall start immediately after the mixture has been placed. The Contractor shall provide a minimum of two steel-wheeled tandem rollers for breakdown (T_B) and one finish steel-wheeled roller (T_F) meeting the requirements of Article 1101.01(e), except the minimum compression for all of the rollers shall be 280 lb/in. (49 N/mm) of roller width. Pneumatic-tired and vibratory rollers will not be permitted.”

Basis of Payment. This work will be paid for at the contract unit price per ton (metric ton) for POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50; and POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, IL-4.75, N50.

HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH

This work shall consist of the removal of the existing hot-mix asphalt surface and shall be performed in accordance with Section 440 of the Standard Specifications with the following exception:

Hot-mix asphalt surface removal, variable depth includes removing the entire hot-mix asphalt pavement and may include portions of the underlying existing portland cement concrete base. This work shall be considered as incidental and included in the cost of hot-mix asphalt surface removal, variable depth. At locations determined by the Engineer the depth of the milling may be increased or decreased in order to provide the proper cross slope or to allow for the minimum lift thickness of hot-mix asphalt surface course and/or hot-mix asphalt binder course and/or polymerized leveling binder. The average depth of milling is approximated to be 3 inches. Additional milling may require multiple passes with the milling machine on multiple days. This additional milling depth shall be included in the cost of the pay item HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH.

Hot-mix asphalt surface removal shall be measured for payment in place and the area computed in square yards. If multiple passes are required to mill to the required depth, only the first pass shall be measured.

This work shall be paid for at the contract unit price per square yard for HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH, regardless of the depth of surface removed.

MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS

The temporary erosion control systems installed by the Contractor shall be properly maintained as directed by the Engineer to control siltation at all times during the life of the contract. MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS includes repair of the various systems, removal of entrapped sediment and cleaning of any silt filter fabric. The sediment shall be removed as directed by the Engineer during the contract period and disposed of according to Article 202.03.

Accumulated silt in sediment basins shall be removed at any time the basin becomes 75 per cent filled. Any additional materials and work required by the Engineer will be measured and paid for as specified. Work performed under this item is to be submitted by the Contractor to the resident Engineer on a force account basis in accordance with 109.04 (b) of the Standard Specifications. The Resident engineer may use any, all or none of this item. If the Contractor fails to maintain the

temporary erosion control systems as directed by the Engineer, the Engineer may at the expiration of a period of 48 hours, after having given the Contractor written notice, proceed to maintain the systems as deemed necessary, and the cost thereof will be deducted from any compensation due, or which may become due the Contractor under this contract.

MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS will be bid at the contract unit price lump sum.

POROUS GRANULAR EMBANKMENT, SUBGRADE

Effective: September 30, 1985

Revised: January 1, 2007

This work consists of furnishing, placing, and compacting porous granular material to the lines and grades shown on the plans or as directed by the Engineer in accordance with applicable portions of Section 207. The material shall be used as a bridging layer over soft, pumpy, loose soil and for placing under water and shall conform with Article 1004.04 except the gradation shall be as follows:

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

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

2. Gravel, Crushed Gravel and Pit Run Gravel

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

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

The porous granular material shall be placed in one lift when the total thickness to be placed is 2 feet (600 mm) or less or as directed by the Engineer. Each lift of the porous granular material shall be

rolled with a vibratory roller meeting the requirements of Article 1101.01(g) to obtain the desired keying or interlock and compaction. The Engineer shall verify that adequate keying has been obtained.

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

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

Full depth subgrade undercut should occur at limits determined by the Engineer. A transition slope to the full depth of undercut shall be made outside of the undercut limits at a taper of 1 foot (300 mm) longitudinal per 1 inch (25 mm) depth below the proposed subgrade or bottom of the proposed aggregate subgrade when included in the contract.

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

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

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

PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 6 INCH

This work shall be done in accordance with Section 423 of the Standard Specifications and the Detail provided in the Plans, except as modified herein.

423.01 Description. Add the following sentences to this Article:

"This item shall include the construction of a 4-inch thick Aggregate Base Course, Type B in accordance with Section 351 of the Standard Specifications. Replacement shall be constructed to match the existing pavement removed for thickness, reinforcing, etc. However, the minimum concrete thickness shall be 6-inches for residential driveways (5-inches if 6 x 6 welded wire fabric is used)."

423.03 Basis of Payment. Revise this Article to read:

"423.03 Basis of Payment. This work shall be paid for at the contract unit price per square yard for PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT , 6 INCH.

PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH

This work shall be done in accordance with Section 424 of the Standard Specifications and the Detail provided in the Plans, except as modified herein.

424.01 Description. Add the following sentence to this Article:

"The concrete sidewalk shall be constructed a minimum 5-inches thick and shall include the installation of a minimum 2 inches of Aggregate Base Course, Type B, in accordance with Section 351 of the Standard Specifications. This work shall also include three No. 5 (5/8") reinforcing bars, 10 feet in length, at all new trench crossing locations.

At locations where the sidewalk crosses driveways, the thickness of concrete shall be increased to 6-inches. If 6-inch x 6-inch wire fabric is placed in the sidewalk through driveway crossings, the sidewalk may be constructed at a thickness of 5-inches as included in this pay item."

424.06 Placing and Finishing. Revise the third sentence in the second paragraph of this Article to read:

"No slab shall be longer than 5 feet and the sidewalk shall be constructed to the width shown on the Plans unless directed otherwise by the Engineer."

424.07 Expansion Joints. Revise the first sentence in Article 424.07 (b) to read:

"Transverse expansion joints 3/4-inch thick shall be placed at intervals of not more than 50 feet in the sidewalk."

424.12 Basis of Payment. Revise the first paragraph of this Article to read:

"424.12 Basis of Payment. This work shall be paid for at the contract unit price per square foot for PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH, which price shall include all required expansion joints and reinforcement, special texturing, and variable height edge treatment at sidewalk ramps and thickening sidewalk or adding wire fabric at driveway crossings."

PRECONSTRUCTION VIDEO TAPING:

This work shall be paid for at the Contract lump sum price for PRECONSTRUCTION VIDEO TAPING on streets within the project limits. This Contract unit price shall be payment in full for all materials, labor, and equipment required for: videotaping between right-of-way lines; two passes minimum, narrative to include address information; providing one copy of the videotapes (DVD format) to the Owner, and other related work required. Videotaping shall be performed at a traversing speed not to exceed 50 feet per minute. The videotapes shall include an audio track noting the condition of existing facilities and site objects and be of suitable photographic clarity to serve as a basis for establishing whether visible damage occurred during construction operations.

PROTECTIVE COAT

This work shall conform to the requirements of Articles 420.21 and 1023.01 of the "Standard Specifications", except that the protective coat shall be applied in all cases regardless of the calendar date limitations contained in Article 420.21. The protective coating shall be applied to the exposed surfaces of the Portland cement concrete pavement, concrete sidewalk, and concrete curb and gutter. Portland cement concrete curing shall be limited to methods specified in Article 1020.13 (a) [1], [2] and [3].

PROTECTIVE COAT will be paid for at the contract unit price per square yard.

RAISED REFLECTIVE PAVEMENT MARKER

This work shall be done in accordance with Section 781 of the "Standard Specifications" and the following:

Sawcutting the pavement for the installation of raised pavement markers shall be done by means

of dry cutting the pavement. The Contractor shall maintain the pavement and the surrounding area in clean, dry condition and shall vacuum the dust and milling from the pavement surface.

The method of cutting the pavement may be altered by the Contractor provided the pavement surface and the surrounding area is cleaned to the satisfaction of the Engineer. Alternate methods of cutting the pavement shall be approved by the Engineer. All costs for cleaning the pavement, regardless of the method, shall be incidental to the unit price per each for RAISED REFLECTIVE PAVEMENT MARKER.

REMOVE AND REPLACE LAWN SPRINKLER SYSTEM

Description. Work under this item shall consist of removing and replacing portions of a lawn sprinkler system that is required to be replaced as a result of construction operations and not as a result of Contractor negligence.

The following criteria shall be used to determine whether payment is due to the Contractor for removing and replacing a lawn sprinkler system:

- a. If portions of an existing sprinkler system are located between the sidewalk and the curb, relocation shall be paid for as Remove and Replace Lawn Sprinkler System according to the criteria described herein.
- b. If a lawn sprinkler system is located beyond the sidewalk and is damaged during construction operations, it shall be replaced by the Contractor at the Contractor's expense. Replacement systems shall be approved by the Engineer prior to placement.

The Contractor shall inventory all existing lawn sprinkler systems that are due for relocation and replacement in the presence of the Engineer. The Contractor shall take all necessary precautions to protect existing lawn sprinkler systems that are to remain in place. The Contractor shall replace only that portion of the lawn sprinkler system that is required by legitimate construction operations. The replacement sections of the lawn sprinkler system shall be compatible with the existing system. The Engineer shall approve locations of the replacement appurtenances prior to demolition activities. Once the replacement sprinklers are replaced and have been tested by the Contractor in the presence of the Engineer, the item will be measured for payment.

Method of Measurement. This work shall be measured for payment in feet of sprinkler system relocated.

Basis of Payment. This work shall be paid for at the contract unit price per foot for REMOVE

AND REPLACE LAWN SPRINKLER SYSTEM in accordance with the plans and as described herein for all materials (including sprinkler heads and valves) and labor necessary to complete the work.

SAWING ASPHALT OR CONCRETE FOR REMOVAL ITEMS

The work shall consist of sawing joints in the existing roadway, hot-mix asphalt surface, curb and gutter and sidewalk in order to separate those portions to be removed from those which will remain in place. This work shall be performed at the locations specified on the plans and/or as otherwise designated by the Engineer. In areas of full-depth removal, the saw cuts shall also be full-depth.

The Contractor will be required to saw vertical cuts so as to form clean vertical joints. Should the Contractor deface any edge, a new sawed joint shall be provided and any additional work, including removal and replacement, will be done at the Contractor's expense.

It is the Contractor's responsibility to determine the thickness of the existing pavement and whether or not it contains reinforcement.

The work as described shall include all materials, labor, & equipment required, and shall be incidental to the removal of the item being saw-cut.

SEDIMENT CONTROL, DRAINAGE STRUCTURE INLET FILTER CLEANING

Description: This work shall consist of cleaning sediment from each assembled inlet filter. The Engineer will designate the need for cleaning based on the rate of debris and silt collected at each inlet filter location.

Cleaning of the inlet filter shall consist of inspecting and cleaning (includes removal and proper disposal of debris and silt that has accumulated in the filter fabric bag) by vactoring, removing and dumping or any other method approved by the Engineer.

Method of Measurement: Cleaning of the drainage structure inlet filter shall be measured for payment each time that the cleaning work is performed at each of the drainage structure inlet filter locations.

Basis of Payment: The work will be paid for at the contract unit price per each for SEDIMENT

CONTROL, DRAINAGE STRUCTURE INLET FILTER CLEANING, which price shall include all costs for labor, materials, equipment, and incidentals necessary to perform the work.

SHORT TERM PAVEMENT MARKING REMOVAL

This work shall conform to the requirements of Section 703 of the Standard Specifications. This work shall consist of removing, to the satisfaction of the Engineer, SHORT TERM PAVEMENT MARKING and shall be included in the cost of the installation of the respective item.

SUPPLEMENTAL WATERING

This work shall conform to Section 201 of the "Standard Specifications" and shall be applied at the rate of two (2) gallons per square yard, and only when directed by the Engineer. This work shall be measured and paid for as specified under Articles 201.10 and 201.11 of the "Standard Specifications."

TEMPORARY INFORMATION SIGNING

Effective: November 13, 1996

Revised: January 2, 2007

Description.

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

Materials.

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

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

- Note 1. The Contractor may use 5/8 inch (16 mm) instead of 3/4 inch (19 mm) thick plywood.
- Note 2. Type A sheeting can be used on the plywood base.
- Note 3. All sign faces shall be Type A except all orange signs shall meet the requirements of Article 1106.01.
- Note 4. The overlay panels shall be 0.08 inch (2 mm) thick.

GENERAL CONSTRUCTION REQUIREMENTS

Installation.

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

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

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

Method Of Measurement.

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

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

Basis Of Payment.

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

TEMPORARY PAINT PAVEMENT MARKING 4" AND 24" WHITE
TEMPORARY PAINT PAVEMENT MARKING 4" YELLOW

This work shall conform to Section 703 of the Standard Specifications. This work shall be measured and paid for as specified under Articles 703.07 except as modified herein.

Temporary Paint Pavement Marking shall be paid for at the contract unit price per foot for TEMPORARY PAINT PAVEMENT MARKING 4" WHITE, TEMPORARY PAINT PAVEMENT MARKING 24" WHITE, and TEMPORARY PAINT PAVEMENT MARKING 4" YELLOW.

TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR

Effective: September 1, 1995

Revised: January 1, 2007

When traffic is to be directed over a detour route, the Contractor shall furnish, erect, maintain and remove all applicable traffic control devices along the detour route according to the details shown in the plans.

Basis of Payment. This work will be paid for at the contract unit price each for TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR.

TRAFFIC CONTROL PLAN

Effective: September 30, 1985

Revised: January 1, 2007

Traffic Control shall be according to the applicable sections of the Standard Specifications, the Supplemental Specifications, the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", any special details and Highway Standards contained in the plans, and the Special Provisions contained herein.

Special attention is called to Article 107.09 of the Standard Specifications and the following Highway Standards, Details, Quality Standard for Work Zone Traffic Control Devices, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

The Contractor shall bag and disconnect signal displays for the opposite direction of traffic during mono-directional lane use as directed by the Engineer.

The Contractor shall contact the District One Bureau of Traffic at least 72 hours in advance of beginning work.

STANDARDS:

701301, 701311, 701326, 701406, 701501, 702001, 720001, 720006, 720011, 729001, 780001, TC-10, TC-11, TC-13, TC-16, TC-18, and TC-22.

DETAILS:

- a.) Traffic Control and Protection for Sideroads, Intersections and Driveways
- b.) Temporary Pavement Marking Letters and Symbols
- c.) Signing for Flagging Operations at Work Zone Openings
- d.) Temporary Information Signing

SPECIAL PROVISIONS:

- No. 40 - Railroad Protective Liability Insurance (5 and 10)
- No. 43 - Reflective Sheeting on Channelizing Devices

Basis of Payment. This work will be paid for at the contract unit price lump sum for TRAFFIC CONTROL AND PROTECTION.

TOPSOIL FURNISH AND PLACE, 4"

This item shall conform to Section 211 of the Standard Specifications. The Contractor shall provide all topsoil from outside the right of way. Plan quantities reflect 4" thick topsoil placement in all disturbed areas. The excavation required to accommodate a nominal 4" thick layer of topsoil has been included in the pay item EARTH EXCAVATION.

This work shall comply with Section 211 of the "Standard Specification" and the "Illinois State Agency Historic Resources Preservation Act" (Public Act 86-707, effective January 1, 1990). Under this Act:

1. The Contractor shall complete an Environmental Survey Request Form for Borrow/Waste/Use Areas (Form BDE 2289 11/06 included herein), along with all required attachments, and submit them to the Engineer at the earliest possible date.

2. The Engineer shall submit the Environmental Survey Request to the Illinois Department of Transportation for review and approval. Any costs incurred associated with said review and approval will be borne by the Contractor.
3. The Contractor shall not begin work on any Topsoil/Use areas until the Environmental Survey Request has been approved.

The Contractor shall collect one representative soil sample from the proposed growing surface which shall be analyzed by an agricultural laboratory approved by the Engineer. The Contractor shall submit the proposed laboratory name and address to the Engineer at the pre-construction conference. The soils analysis shall include (but is not limited to) the recommended application rates of nitrogen phosphorus and potassium fertilizer nutrients. The cost of the soil analysis will not be paid for, but will be included in the cost TOPSOIL FURNISH AND PLACE, 4".

Existing sidewalks, curbs, structures, trees and other plant materials that are to remain in place shall be protected from damage. Any damage caused by the Contractor shall be replaced at the Contractor's expense.

Excavation and grading around tree roots and plant materials shall be done by hand.

Additional material required to bring the area to grade will not be paid for separately but considered incidental to TOPSOIL FURNISH AND PLACE, 4". Additional material must meet the approval of the Engineer.

The surface of the topsoil shall be free from clods, stones, sticks and debris and shall conform to the lines, grades and the minimum thickness shown on the plans. One rolling of the entire surface shall be made.

All material "tracked" down the street shall be removed each day. All sidewalks, driveways, and pavements shall be left in a broom-cleaned condition.

TOPSOIL FURNISH AND PLACE, 4" will be measured and paid for at the contract unit price per square yard, which price shall include the cost of furnishing and placing topsoil, raking, rolling, disking or tilling if required. No measurement will be made of existing material removed.

Ridge Avenue STP Improvement
Section No. 06-00241-00-PV
Job No.: C-91-145-07
Project No. HPP-0703(209)
Contract No.: 83968

TRAFFIC SIGNAL SPECIFICATIONS AND SPECIAL PROVISIONS

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TRAFFIC SIGNAL SPECIFICATIONS

Effective: May 22, 2002

Revised: January 1, 2007

These Traffic Signal Special Provisions and the "District One Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction." The intent of these Special Provisions is to prescribe the materials and construction methods commonly used for traffic signal installations. All material furnished shall be new. The locations and the details of all installations shall be as indicated on the Plans or as directed by the Engineer. The work to be done under this contract consists of furnishing and installing all traffic signal work as specified in the Plans and as specified herein in a manner acceptable and approved by the Engineer.

SECTION 720 SIGNING

MAST ARM SIGN PANELS.

Add the following to Section 720.02 of the Standard Specifications:

Signs attached to poles or posts (such as mast arm signs) shall have mounting brackets and sign channels which are equal to and completely interchangeable with those used by the District Sign Shops. Signfix Aluminum Channel Framing System is currently recommended, but other brands of mounting hardware are acceptable based upon the Department's approval.

DIVISION 800 ELECTRICAL

INSPECTION OF ELECTRICAL SYSTEMS.

Add the following to Article 801.10 of the Standard Specifications:

All cabinets including temporary traffic signal cabinets shall be assembled by an approved equipment supplier in District One. The Department reserves the right to request any controller and cabinet to be tested at the equipment supplier facilities prior to field installation, at no extra cost to this contract. All railroad interconnected (including temporary railroad interconnect) controllers and cabinets shall be new, built, tested and approved by the controller equipment vendor, in the vendor's District One facility, prior to field installation. The vendor shall provide the technical equipment and assistance as required by the Engineer to fully test this equipment.

DAMAGE TO TRAFFIC SIGNAL SYSTEM.

Add the following to Article 801.12(b) of the Standard Specifications to read:

Any damaged equipment or equipment not operating properly from any cause whatsoever shall be repaired with new equipment provided by the Contractor at no additional cost to the Contract and or owner of the traffic signal system, all as approved by the Engineer. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the

time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices outside the controller cabinet shall not be allowed.

RESTORATION OF WORK AREA.

Add to Section 801 of the Standard Specifications:

Restoration of the traffic signal work area shall be included in the related pay items such as foundation, conduit, handhole, trench and backfill, etc. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded. Restoration of the work area shall be included in the contract without any extra compensation allowed to the Contractor.

SUBMITTALS.

Revise Article 801.05 of the Standard Specifications to read:

The Contractor shall provide:

- a. All material approval requests shall be submitted at the preconstruction meeting, including major traffic signal items listed in the table in Article 801.05..
- b. All material or equipment which are similar or identical shall be the product of the same manufacturer, unless necessary for system continuity. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.
- c. Seven (7) copies of a letter from the Traffic Signal Contractor on company letterhead listing the contract number or permit number, project location/limits, pay item description, pay code number, manufacturer's name and model numbers of the proposed equipment and stating that the proposed equipment meets all contract requirements. The letter will be reviewed by the Traffic Design Engineer to determine whether the equipment to be used is approvable.
- d. Seven (7) copies of shop drawings for mast arm poles and assemblies, including combination mast arm poles, are required. A minimum of two (2) copies of all other material catalog cuts are required. Submittals for equipment and materials shall be complete. Partial or incomplete submittals will be returned without review.
- e. Certain non-standard mast arm poles and assemblies will require additional review from IDOT's Central Office. Examples include ornamental/decorative and non-standard length mast arm pole assemblies. The Contractor shall account for the additional review time in his schedule.
- f. The contract number or permit number, project location/limits and corresponding pay code number must be on each sheet of the letter, material catalog cuts and mast arm poles and assemblies drawings.
- g. Where certifications and/or warranties are specified, the information submitted for approval shall include certifications and warranties. Certifications involving inspections, and/or tests of material shall be complete with all test data, dates, and times.
- h. After the Engineer reviews the submittals for conformance with the design concept of the project, the Engineer will stamp the drawings indicating their status as 'Approved', 'Approved-As-Noted', 'Disapproved', or 'Information Only'. Since the Engineer's review is for conformance with the design concept only, it is the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, layout drawings, or other documents by the

Department's approval thereof. The Contractor must still be in full compliance with contract and specification requirements.

- i. All submitted items reviewed and marked 'APPROVED AS NOTED', or 'DISAPPROVED' are to be resubmitted in their entirety, unless otherwise indicated within the submittal comments, with a disposition of previous comments to verify contract compliance at no additional cost to the contract.
- j. Exceptions, Deviations and Substitutions. In general, exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.

MAINTENANCE AND RESPONSIBILITY.

Revise Article 801.11 of the Standard Specifications to read:

- a) Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of Transportation, Division of Highways, County, Private Developer, or the Municipality in which they are located. Once the Contractor has begun any work on any portion of the project, all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," shall become the full responsibility of the Contractor. The Contractor shall supply the engineer and the Department's Electrical Maintenance Contractor a 24-hour emergency contact name and telephone number.
- b) When the project has a pay item for "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," the Contractor must notify both the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 and the Department's Electrical Maintenance Contractor, of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.
- c) Contracts such as pavement grinding or patching which result in the destruction of traffic signal loops do not require maintenance transfer, but require a notification of intent to work and an inspection. A minimum of seven (7) working days prior to the loop removal, the Contractor shall notify the Area Traffic Signal Maintenance and Operations Engineer

at (847) 705-4424 and the Department's Electrical Maintenance Contractor, at which time arrangements will be made to adjust the traffic controller timing to compensate for the absence of detection. See additional requirements in these specifications under Inductive Loop Detector.

- d) The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shutdown the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.
- e) The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals. Any inquiry, complaint or request by the Department, the Department's Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of \$500 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$500 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The District's Electrical Maintenance Contractor may inspect any signaling device on the Department's highway system at any time without notification.

TRAFFIC SIGNAL INSPECTION (TURN-ON).

Revise Article 801.15(b) of the Standard Specifications to read:

It is the intent to have all electric work completed and equipment field tested by the vendor prior to the Department's "turn-on" field inspection. If in the event the Engineer determines work is not complete and the inspection will require more than two (2) hours to complete, the inspection shall be canceled and the Contractor will be required to reschedule at another date. The maintenance of the traffic signals will not be accepted until all punch list work is corrected and re-inspected.

When the road is open to traffic, except as otherwise provided in Section 850 of the Standard Specifications, the Contractor may request a turn-on and inspection of the completed traffic signal installation at each separate location. This request must be made to the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 a minimum of seven (7) working days prior to the time of the requested inspection. The Department will not grant a field inspection until notification is provided from the Contractor that the equipment has been field tested and the intersection is operating according to Contract requirements. The Department's facsimile number is (847) 705-4089. The Contractor must invite local fire department personnel to the turn-on when Emergency Vehicle Preemption (EVP) is included in the project. The Contractor must notify the SCAT Consultant of the turn-on schedule, as well as stage changes and phase changes during construction.

The Contractor must have all traffic signal work completed and the electrical service installation connected by the utility company prior to requesting an inspection and turn-on of the traffic

signal installation. The Contractor shall be responsible to provide a police officer to direct traffic at the time of testing.

The Contractor shall provide a representative from the control equipment vendor's office to attend the traffic signal inspection for both permanent and temporary traffic signal turn-ons. Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

The District requires the following from the Contractor at traffic signal turn-ons.

1. One set of signal plans of record with field revisions marked in red ink.
2. Notification from the Contractor and the equipment vendor of satisfactory field testing.
3. A knowledgeable representative of the controller equipment supplier shall be required at the traffic signal turn-on. The representative shall be knowledgeable of the cabinet design and controller functions.
4. A copy of the approved material letter.
5. One (1) copy of the operation and service manuals of the signal controller and associated control equipment.
6. Five (5) copies 11" x 17" (280 mm X 430 mm) of the cabinet wiring diagrams.
7. The controller manufacturer shall supply a printed form, not to exceed 11" x 17" (280 mm X 430 mm) for recording the traffic signal controller's timings; backup timings; coordination splits, offsets, and cycles; TBC Time of Day, Week and Year Programs; Traffic Responsive Program, Detector Phase Assignment, Type and Detector Switching; and any other functions programmable from the keyboard. The form shall include a location, date, manufacturer's name, controller model and software version. The form shall be approved by the Engineer and a minimum of three (3) copies must be furnished at each turn-on. The manufacturer must provide all programming information used within the controller at the time of turn-on.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal "turn on." If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Departmental acceptance is granted.

All equipment and/or parts to keep the traffic signal installation operating shall be furnished by the Contractor. No spare traffic signal equipment is available from the Department.

All punch list work shall be completed within two (2) weeks after the final inspection. The Contractor shall notify the Electrical Maintenance Contractor to inspect all punch list work. Failure to meet these time constraints shall result in liquidated damage charges of \$500 per month per incident.

All cost of work and materials required to comply with the above requirements shall be included in the pay item bid prices, under which the subject materials and signal equipment are paid, and no additional compensation will be allowed. Materials and signal equipment not complying with the above requirements shall be subject to removal and disposal at the Contractor's expense.

LOCATING UNDERGROUND FACILITIES.

Revise Section 803 to the Standard Specifications to read:

If this Contract requires the services of an Electrical Contractor, the Contractor shall be responsible at his/her own expense for locating existing IDOT electrical facilities prior to performing any work. If this Contract does not require the services of an Electrical Contractor, the Contractor may request one free locate for existing IDOT electrical facilities from the District One Electrical Maintenance Contractor prior to the start of any work. Additional requests may be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any facilities damaged during construction at their expense.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities the local Counties or Municipalities may need to be contacted, in the City of Chicago contact D.I.G.G.E.R. at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123.

ELECTRIC SERVICE INSTALLATION.

Revise Section 805 of the Standard Specifications to read:

Description.

This work shall consist of all materials and labor required to install, modify, or extend the electric service installation. All installations shall meet the requirements of the details in the "District One Standard Traffic Signal Design Details" and applicable portions of the Specifications.

General.

The electric service installation shall be the electric service disconnecting means and it shall be identified as suitable for use as service equipment.

The electric utility contact information is noted on the plans and represents the current information at the time of contract preparation. The Contractor must request in writing for service and/or service modification within 10 days of contract award and must follow-up with the electric utility to assure all necessary documents and payment are received by the utility. The Contractor shall forward copies of all correspondence between the contractor and utility company. The service agreement and sketch shall be submitted for signature to the Traffic Program's engineer.

Materials.

- a. General. The completed control panel shall be constructed in accordance with UL Std. 508A, Industrial Control Panel, and carry the UL label. Wire terminations shall be UL listed.
- b. Enclosures.
 1. Pole Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 4X, unfinished single door design, fabricated from minimum 0.080-inch (2.03 mm) thick Type 5052 H-32 aluminum. Seams shall be continuous welded

and ground smooth. Stainless steel screws and clamps shall secure the cover and assure a watertight seal. The cover shall be removable by pulling the continuous stainless steel hinge pin. The cabinet shall have an oil-resistant gasket and a lock kit shall be provided with an internal O-ring in the locking mechanism assuring a watertight and dust-tight seal. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 14-inches (350 mm) high, 9-inches (225 mm) wide and 8-inches (200 mm) in depth is required. The cabinet shall be channel mounted to a wooden utility pole using assemblies recommended by the manufacturer.

2. Ground Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 3R unfinished single door design with back panel. The cabinet shall be fabricated from Type 5052 H-32 aluminum with the frame and door 0.125-inch (3.175 mm) thick, the top 0.250-inch (6.350 mm) thick and the bottom 0.500-inch (12.70 mm) thick. Seams shall be continuous welded and ground smooth. The door and door opening shall be double flanged. The door shall be approximately 80% of the front surface, with a full length tamperproof stainless steel .075-inch (1.91 mm) thick hinge bolted to the cabinet with stainless steel carriage bolts and nylocks nuts. The locking mechanism shall be slam-latch type with a keyhole cover. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 40-inches (1000 mm) high, 16-inches (400 mm) wide and 15-inches (375 mm) in depth is required. The cabinet shall be mounted upon a square Type A concrete foundation as indicated on the plans. The foundation is paid for separately.
- c. Surge Protector. Overvoltage protection, with LED indicator, shall be provided for the 120 volt load circuit by the means MOV and thermal fusing technology. The response time shall be <math>< 5n</math> seconds and operate within a range of $-40C$ to $+85C$. The surge protector shall be UL 1449 Listed.
- d. Circuit Breakers. Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type circuit breakers with trip free indicating handles. 120 volt circuit breakers shall have an interrupting rating of not less than 65,000 rms symmetrical amperes. Unless otherwise indicated, the main disconnect circuit breaker for the traffic signal controller shall be rated 60 amperes, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.
- e. Fuses, Fuseholders and Power Indicating Light. Fuses shall be small-dimensional cylindrical fuses of the dual element time-delay type. The fuses shall be rated for 600 V AC and shall have a UL listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated voltage. The power indicating light shall be LED type with a green colored lens and shall be energized when electric utility power is present.
- f. Ground and Neutral Bus Bars. A single copper ground and neutral bus bar, mounted on the equipment panel shall be provided. Ground and neutral conductors shall be separated on the bus bar. Compression lugs, plus 2 spare lugs, shall be sized to accommodate the cables with the heads of the connector screws painted green for ground connections and white for neutral connections.

- g. Utility Services Connection. The Contractor shall notify the Utility Company marketing representative a minimum of 30 working days prior to the anticipated date of hook-up. This 30 day advance notification will begin only after the Utility Company marketing representative has received service charge payments from the Contractor. Prior to contacting the Utility Company marketing representative for service connection, the service installation controller cabinet and cable must be installed for inspection by the Utility Company.
- h. Ground Rod. Ground rods shall be copper-clad steel, a minimum of 10 feet (3.0m) in length, and 3/4 inch (20mm) in diameter. Ground rod resistance measurements to ground shall be 25 ohms or less. If necessary additional rods shall be installed to meet resistance requirements at no additional cost to the contract.

Installation.

- a. General. The Contractor shall confirm the orientation of the traffic service installation and its door side with the engineer, prior to installation. All conduit entrances into the service installation shall be sealed with a pliable waterproof material.
- b. Pole Mounted. Brackets designed for pole mounting shall be used. All mounting hardware shall be stainless steel. Mounting height shall be as noted on the plans or as directed by the Engineer.
- c. Ground Mounted. The service installation shall be mounted plumb and level on the foundation and fastened to the anchor bolts with hot-dipped galvanized or stainless steel nuts and washers. The space between the bottom of the enclosure and the top of the foundation shall be caulked at the base with silicone.

Basis of Payment.

The service installation shall be paid for at the contract unit price each for SERVICE INSTALLATION of the type specified which shall be payment in full for furnishing and installing the service installation complete. The type A foundation which includes the ground rod shall be paid for separately. SERVICE INSTALLATION, POLE MOUNTED shall include the 3/4 inch (20mm) grounding conduit, ground rod, and pole mount assembly. Any charges by the utility companies shall be approved by the engineer and paid for as an addition to the contract according to Article 109.05 of the Standard Specifications.

GROUNDING OF TRAFFIC SIGNAL SYSTEMS.

General.

All traffic signal systems, equipment and appurtenances shall be properly grounded in strict conformance with the NEC. See IDOT District One Traffic Signal detail plan sheets for additional information.

The grounding electrode system shall include a ground rod installed with each traffic signal controller concrete foundation and all mast arm and post concrete foundations. An additional ground rod will be required at locations where measured resistance exceeds 25 ohms. Ground rods are included in the applicable foundation 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 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.
 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.

HANDHOLES.

Add the following to Section 814 of the Standard Specifications:

All handholes shall be concrete, poured in place, with inside dimensions of 21-1/2 inches (549mm) minimum. Frames and lid openings shall match this dimension. The cover of the handhole frame shall be labeled "Traffic Signals" with legible raised letters.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (15.875mm) diameter stainless bolt cast into the frame. The covers shall have a stainless steel threaded stint extended from the eye hook assembly for the purpose of attaching the grounding conductor to the handhole cover.

The minimum wall thickness for heavy duty hand holes shall be 12 inches (300mm).

All conduits shall enter the handhole at a depth of 30 inches (760mm) except for the conduits for detector loops when the handhole is less than 5 feet (1.52 m) from the detector loop. All

conduit ends should be sealed with a waterproof sealant to prevent the entrance of contaminants into the handhole.

Steel cable hooks shall be coated with hot-dipped galvanization in accordance with AASHTO Specification M111. Hooks shall be a minimum of 1/2 inch (12.7 mm) diameter with two 90 degree bends and extend into the handhole at least 6 inches (150 mm). Hooks shall be placed a minimum of 12 inches (300 mm) below the lid or lower if additional space is required.

FIBER OPTIC TRACER CABLE.

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add the following to Article 817.03 of the Standard Specifications:

In order to trace the fiber optic cable after installation, the tracer cable shall be installed in the same conduit as the fiber optic cable in locations shown on the plans. The tracer cable shall be continuous, extended into the controller cabinet and terminated on a barrier type terminal strip mounted on the side wall of the controller cabinet. The barrier type terminal strip and tracer cable shall be clearly marked and identified. The tracer cable will be allowed to be spliced at the handholes only. All tracer cable splices shall be kept to a minimum and shall incorporate maximum lengths of cable supplied by the manufacturer. The tracer cable splice shall use a Western Union Splice soldered with resin core flux. All exposed surfaces of the solder shall be smooth. Splices shall be soldered using a soldering iron. Blow torches or other devices which oxidize copper cable shall not be allowed for soldering operations. The splice shall be covered with WCSMW 30/100 heat shrink tube, minimum length 4 inches (100 mm) and with a minimum 1 inch (25 mm) coverage over the XLP insulation, underwater grade.

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment.

The tracer cable shall be paid for separately as ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C per foot (meter), which price shall include all associated labor and material for installation.

GROUNDING CABLE.

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add to Article 817.02 (b) of the Standard Specifications:

Unless otherwise noted on the Plans, traffic signal grounding conductor shall be one conductor, #6 gauge copper, with a green color coded XLP jacket.

The traffic signal grounding conductor shall be bonded, using a Listed grounding connector (Burdny type KC/K2C, as applicable, or approved equal), to all proposed and existing traffic signal mast arm poles and traffic/pedestrian signal posts, including push button posts. The grounding conductor shall be bonded to all proposed and existing pull boxes, handhole frames and covers and other metallic enclosures throughout the traffic signal wiring system and noted herein and

detailed on the plans. Bonding to existing handhole frames and covers shall be paid for separately.

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment.

Grounding cable shall be measured in place for payment in foot (meter). Payment shall be at the contract unit price for ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6, 1C, which price includes all associated labor and material including grounding clamps, splicing, exothermic welds, grounding connectors, and other hardware.

RAILROAD INTERCONNECT CABLE.

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add to Article 817.02 of the Standard Specifications:

The railroad interconnect cable shall be three conductor stranded #14 copper cable in a clear polyester binder, shielded with #36 AWG tinned copper braid with 85% coverage, and insulated with .016" polyethylene (black, blue, red). The jacket shall be black 0.045 PVC or polyethylene.

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment.

This work shall be paid for at the contract unit price per foot (meter) for ELECTRIC CABLE IN CONDUIT, RAILROAD, NO. 14 3C, which price shall be payment in full for furnishing, installing, and making all electrical connections in the traffic signal controller cabinet. Connections in the railroad controller cabinet shall be performed by railroad personnel.

MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION.

Revise Section 850 of the Standard Specifications to read:

The energy charges for the operation of the traffic signal installation shall be paid for by others. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the Contract or any portion thereof.

The Contractor shall have on staff electricians with IMSA Level II certification to provide signal maintenance.

This item shall include maintenance of all traffic signal equipment at the intersection, including emergency vehicle pre-emption equipment, master controllers, uninterruptible power supply (UPS and batteries), telephone service installations, communication cables and conduits to adjacent intersections.

The maintenance shall be according to District One revised Article 801.11 and the following contained herein.

The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment. The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs.

The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. The Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.

The Contractor shall provide the Engineer with a 24 hour telephone number for the maintenance of the traffic signal installation and for emergency calls by the Engineer.

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of these Specifications.

The Contractor shall respond to all emergency calls from the Department or others within one hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the contract. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's Electrical Maintenance Contractor perform the maintenance work required. The State's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.

Basis of Payment.

This work shall be paid for at the contract unit price each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION.

TRAFFIC ACTUATED CONTROLLER.

Add the following to Article 857.02 of the Standard Specifications:

Controllers shall be NEMA TS2 Type 1, Econolite ASC/2S-1000 or Eagle/Siemens M41 unless specified otherwise on the plans or elsewhere on these specifications. Only controllers supplied by one of the District One approved closed loop equipment manufacturers will be allowed. The controller shall be the most recent model and software version supplied by the manufacturer at

the time of the approval. The traffic signal controller shall provide features to inhibit simultaneous display of a circular yellow ball and a yellow arrow display. Individual load switches shall be provided for each vehicle, pedestrian, and right turn over lap phase. The controller shall prevent phases from being skipped during program changes and after all preemption events.

MASTER CONTROLLER.

Revise Articles 860.02 - Materials and 860.03 - Installation of the Standard Specifications to read:

Only controllers supplied by one of the District approved closed loop equipment manufacturers will be allowed. Only NEMA TS 2 Type 1 Eagle/Siemens and Econolite closed loop systems shall be supplied. The latest model and software version of master controller shall be supplied.

Functional requirements in addition to those in Section 863 of the Standard Specification include:

The system commands shall consist of, as a minimum, six (6) cycle lengths, five (5) offsets, three (3) splits, and four (4) special functions. The system commands shall also include commands for free or coordinated operation.

Traffic Responsive operation shall consist of the real time acquisition of system detector data, data validation, and the scaling of acquired volumes and occupancies in a deterministic fashion so as to cause the selection and implementation of the most suitable traffic plan.

Upon request by the Engineer, each master shall be delivered with up to three (3) complete sets of the latest edition of registered remote monitoring software with full manufacture's support. Each set shall consist of software on CD, DVD, or other suitable media approved by the Engineer, and a bound set of manuals containing loading and operating instruction. One copy of the software and support data shall be delivered to the Agency in charge of system operation, if other than IDOT. One of these two sets will be provided to the Agency Signal Maintenance Contractor for use in monitoring the system.

The approved manufacturer of equipment shall loan the District one master controller and two intersection controllers of the most recent models and the newest software version to be used for instructional purposes in addition to the equipment to be supplied for the Contract.

The Contractor shall arrange to install a standard voice-grade dial-up telephone line to the master controller. This shall be accomplished through the following process utilizing District One staff. This telephone line may be coupled with a DSL line and a phone filter to isolate the dial-up line. An E911 address is required.

The cabinet shall be provided with an Outdoor Network Interface for termination of the telephone service. It shall be mounted to the inside of the cabinet in a location suitable to provide access for termination of the telephone service at a later date.

Full duplex communication between the master and its local controllers is recommended, but at this time not required. The data rate shall be 1200 baud minimum and shall be capable of speeds to 38,400 or above as technology allows. The controller, when installed in an Ethernet topology, may operate non-serial communications.

The cabinet shall be equipped with a 9600 baud, auto dial/auto answer modem. It shall be a US robotics 33.6K baud rate or equal.

As soon as practical or within one week after the contract has been awarded, the Contractor shall contact (via phone) the Administrative Support Manager in the District One Business Services Section at (847) 705-4011 to request a phone line installation.

A follow-up fax transmittal to the Administrative Support Manager (847-705-4712) with all required information pertaining to the phone installation is required from the Contractor as soon as possible or within one week after the initial request has been made. A copy of this fax transmittal must also be faxed by the Contractor to the Traffic Signal Systems Engineer at (847) 705-4089. The required information to be supplied on the fax shall include (but not limited to): A street address for the new traffic signal controller (or nearby address); a nearby existing telephone number; what type of telephone service is needed; the name and number of the Contractor's employee for the telephone company to contact regarding site work and questions.

The usual time frame for the activation of the phone line is 4-6 weeks after the Business Services Section has received the Contractor supplied fax. It is, therefore, imperative that the phone line conduit and pull-string be installed by the Contractor in anticipation of this time frame. On jobs which include roadway widening in which the conduit cannot be installed until this widening is completed, the Contractor will be allowed to delay the phone line installation request to the Business Services Section until a point in time that is 4-6 weeks prior to the anticipated completion of the traffic signal work. The contractor shall provide the Administrative Support Manager with an expected installation date considering the 4-6 week processing time.

The telephone line shall be installed and activated one month before the system final inspection.

All costs associated with the telephone line installation and activation (not including the Contract specified conduit installation between the point of telephone service and the traffic signal controller cabinet) shall be paid for by the District One Business Services Section (i.e., this will be an IDOT phone number not a Contractor phone number).

FIBER OPTIC CABLE.

Add the following to Articles 871.01, 872.02, 871.04, and 871.05 of the Standard Specifications:

This work shall consist of furnishing and installing Fiber Optical cable in conduit with all accessories and connectors according to Section 871 of the Standard Specifications. The cable shall be of the type, size, and the number of fiber specified.

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. A minimum of six multimode fibers from each cable shall be terminated with approved mechanical connectors at the distribution enclosure. Fibers not being used shall be labeled "spare." Fibers not attached to the distribution enclosure shall be capped and sealed. A minimum of 13.0 feet (4m) of extra cable length shall be provided for the controller cabinet. The controller cabinet extra cable length shall be stored as directed by the Engineer.

Fiber Optic cable may be gel filled or have an approved water blocking tape.

Basis of Payment.

The work shall be paid for at the contract unit price for FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F, per foot (meter) for the cable in place, including distribution enclosure and all connectors.

CONCRETE FOUNDATIONS.

Add the following to Article 878.03 of the Standard Specifications:

All anchor bolts shall be according to Article 1006.09, except all anchor bolts shall be hot dipped galvanized the full length of the anchor bolt including the hook.

Concrete Foundations, Type "A" for Traffic Signal Posts shall provide anchor bolts with the bolt pattern specified within the "District One Standard Traffic Signal Design Details." All Type "A" foundations shall be a minimum depth of 48 inches (1.22 m).

Concrete Foundations, Type "C" for Traffic Signal Cabinets with Uninterruptible Power Supply (UPS) cabinet installations shall be a minimum of 48 inches (1.22 m) long and 31 inches (790 mm) wide. All Type "C" foundations shall be a minimum depth of 48 inches (1.22 m). An integral concrete pad to support the UPS cabinet shall be constructed a minimum of 20 inches (510 mm) long and a minimum depth of 10 inches (250 mm). The concrete apron in front of the Type IV or V cabinet shall be 36 in. x 48 in. x 5 in. (910 mm X 1220 mm X 130 mm). The concrete apron in front of the UPS cabinet shall be 36 in. x 31 in. x 5 in. (910 mm X 790 mm X 130 mm). Anchor bolts shall provide bolt spacing as required by the manufacturer.

Concrete Foundations, Type "D" for Traffic Signal Cabinets shall be a minimum of 48 inches (1.22 m) long and 31 inches (790 mm) wide. All Type "D" foundations shall be a minimum depth of 48 inches (1.22 m). 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 following requirements:

Table 1
DESIGN TABLE FOR MAST ARM FOUNDATIONS

MAST ARM LENGTH	FOUNDATION DEPTH*	FOUNDATION DIAMETER	SPIRAL DIAMETER	QUANTITY OF NO. 15 (NO. 5) BARS
Less than 9.1m (30')	10'-0" (3.0m)	30" (750mm)	24" (600mm)	8
Greater than or equal to 9.1m (30') and less than 12.2m (40')	13'-6" (4.1m)	30" (750mm)	24" (600mm)	8
	11'-0" (3.4m)	36" (900mm)	30" (750mm)	12
Greater than or equal to 12.2m (40') and less than 15.2m (50')	13'-0" (4.0m)	36" (900mm)	30" (750mm)	12
Greater than or equal to 15.2m (50') and up to 16.8m (55')	15'-0" (4.6m)	36" (900mm)	30" (750mm)	12

Foundation depths specified are for sites which have cohesive soils (clayey, silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive strength of $(Q_u) > 1.0$ tsf (100kPa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & Structures should be contacted for a revised design if other conditions are encountered.

Concrete Foundations, Type "E" for Combination Mast Arm Poles shall be 36 inch (900 mm) diameter, regardless of mast arm length. 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.

DETECTOR LOOP.

Revise Section 886 of the Standard Specifications to read:

A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall have the proposed loop locations marked and contact the Area Traffic Signal Maintenance and Operations Engineer (847) 705-4424 to inspect and approve the layout. When preformed detector loops are installed, the Contractor shall have them inspected and approved prior to the pouring of the Portland cement concrete surface, using the same notification process as above.

Loop detectors shall be installed according to the requirements of the "District One Standard Traffic Signal Design Details." Saw-cuts (homeruns on preformed detector loops) from the loop to the edge of pavement shall be made perpendicular to the edge of pavement when possible in order to minimize the length of the saw-cut (homerun on preformed detector loops) unless directed otherwise by the Engineer or as shown on the plan.

The detector loop cable insulation shall be labeled with the cable specifications.

Each loop detector lead-in wire shall be labeled in the handhole using a Panduit 250W175C water proof tag, or an approved equal, secured to each wire with nylon ties.

Resistance to ground shall be a minimum of 100 mega-ohms under any conditions of weather or moisture. Inductance shall be more than 50 and less than 700 microhenries. Quality readings shall be more than 5.

- (a) Type I. All loops installed in new asphalt pavement shall be installed in the binder course and not in the surface course. The edge of pavement, curb and handhole shall be cut with a 1/4 inch (6.3 mm) deep x 4 inches (100 mm) saw cut to mark location of each loop lead-in.

Loop sealant shall be a two-component thixotropic chemically cured polyurethane either Chemque Q-Seal 295, Percol Elastic Cement A/C Grade or an approved equal. The sealant shall be installed 1/8 inch (3 mm) below the pavement surface, if installed above the surface the overlap shall be removed immediately.

Detector loop measurements shall include the saw cut and the length of the loop lead-in to the edge of pavement. The lead-in wire, including all necessary connections for proper operations, from the edge of pavement to the handhole, shall

be included in the price of the detector loop. Unit duct, trench and backfill, and drilling of pavement or handholes shall be included in detector loop quantities.

- (b) **Preformed.** This work shall consist of furnishing and installing a rubberized heat resistant preformed traffic signal loop in accordance with the Standard Specifications, except for the following:

Preformed detector loops shall be installed in new pavement constructed of Portland cement concrete using mounting chairs or tied to re-bar or the preformed detector loops may be placed in the sub-base. Loop lead-ins shall be extended to a temporary enclosure near the proposed handhole location with ends capped and sealed against moisture and other contaminants.

Handholes shall be placed next to the shoulder or back of curb when preformed detector loops enter the handhole. Non-metallic coilable duct, included in this pay item, shall be used to protect the preformed lead-ins from back of curb to the handhole.

Preformed detector loops shall be factory assembled. Homeruns and interconnects shall be pre-wired and shall be an integral part of the loop assembly. The loop configurations and homerun lengths shall be assembled for the specific application. The loop and homerun shall be constructed using 11/16 inch (17.2 mm) outside diameter (minimum), 3/8 inch (9.5 mm) inside diameter (minimum) Class A oil resistant synthetic cord reinforced hydraulic hose with 250 psi (1,720 kPa) internal pressure rating. Hose for the loop and homerun assembly shall be one continuous piece. No joints or splices shall be allowed in the hose except where necessary to connect homeruns or interconnects to the loops. This will provide maximum wire protection and loop system strength. Hose tee connections shall be heavy duty high temperature synthetic rubber. The tee shall be of proper size to attach directly to the hose, minimizing glue joints. The tee shall have the same flexible properties as the hose to insure that the whole assembly can conform to pavement movement and shifting without cracking or breaking. The wire used shall be #16 THWN stranded copper. The number of turns in the loop shall be application specific. Homerun wire pairs shall be twisted a minimum of four turns per foot. No wire splices will be allowed in the preformed loop assembly. The loop and homeruns shall be filled and sealed with a flexible sealant to insure complete moisture blockage and further protect the wire. The preformed loops shall be constructed to allow a minimum of 6.5 feet of extra cable in the handhole.

Basis of Payment.

This work shall be paid for at the contract unit price per foot (meter) for DETECTOR LOOP, TYPE I or PREFORMED DETECTOR LOOP as specified in the plans, which price shall be payment in full for furnishing and installing the detector loop and all related connections for proper operation.

EMERGENCY VEHICLE PRIORITY SYSTEM.

Revise Section 887 of the Standard Specifications to read:

It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle pre-emption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency.

All new installations shall be equipped with Confirmation Beacons as shown on the "District One Standard Traffic Signal Design Details." The Confirmation Beacon shall consist of a 6 watt Par 38 LED flood lamp with a 30 degree light spread, maximum 6 watt energy consumption at 120V, and a 2,000 hour warranty for each direction of pre-emption. The lamp shall have an adjustable mount with a weatherproof enclosure for cable splicing. All hardware shall be cast aluminum or stainless steel. Holes drilled into signal poles, mast arms, or posts shall require rubber grommets. In order to maintain uniformity between communities, the confirmation beacons shall indicate when the control equipment receives the pre-emption signal. The pre-emption movement shall be signaled by a flashing indication at the rate specified by Section 4D-11 of the "Manual on Uniform Traffic Control Devices." The stopped pre-empted movements shall be signaled by a continuous indication.

All light operated systems shall include security and transit preemption software and operate at a uniform rate of 14.035 Hz \pm 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District.

Basis of Payment.

The work shall be paid for at the contract unit price each for furnishing and installing LIGHT DETECTOR and LIGHT DETECTOR AMPLIFIER. Furnishing and installing the confirmation beacon shall be included in the cost of the Light Detector. The preemption detector amplifier shall be paid for on a basis of (1) one each per intersection controller and shall provide operation for all movements required in the pre-emption phase sequence.

RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM

Description.

This work shall consist of re-optimizing a closed loop traffic signal system according to the following Levels of work.

LEVEL I applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system. The purpose of this work is to integrate the improvements to the subject intersection into the signal system while minimizing the impacts to the existing system operation. This type of work would be commonly associated with the addition of signal phases, pedestrian phases, or improvements that do not affect the capacity at an intersection.

LEVEL II applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system and detailed analysis of the intersection operation is desired by the engineer, or when a new signalized or existing signalized intersection is being added to an existing system, but optimization of the entire system is not required. The purpose of this work is to optimize the subject intersection, while integrating it into the existing signal

system with limited impact to the system operations. This item also includes an evaluation of the overall system operation, including the traffic responsive program.

For the purposes of re-optimization work, an intersection shall include all traffic movements operated by the subject controller and cabinet.

After the signal improvements are completed, the signal shall be re-optimized as specified by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants. Traffic signal system optimization work, including fine-tuning adjustments of the optimized system, shall follow the requirements stated in the most recent IDOT District 1 SCAT Guidelines, except as note herein.

A listing of existing signal equipment, interconnect information, phasing data, and timing patterns may be obtained from the Department, if available and as appropriate. The existing SCAT Report is available for review at the District One office and if the Consultant provides blank computer disks, copies of computer simulation files for the existing optimized system and a timing database that includes intersection displays will be made for the Consultant. The Consultant shall confer with the Traffic Signal Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system, in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the optimization.

(a) LEVEL I Re-Optimization

1. The following tasks are associated with LEVEL I Re-Optimization.
 - a. Appropriate signal timings shall be developed for the subject intersection and existing timings shall be utilized for the rest of the intersections in the system.
 - b. Proposed signal timing plan for the new or modified intersection(s) shall be forwarded to IDOT for review prior to implementation.
 - c. Consultant shall conduct on-site implementation of the timings at the turn-on and make fine-tuning adjustments to the timings of the subject intersection in the field to alleviate observed adverse operating conditions and to enhance operations.
2. The following deliverables shall be provided for LEVEL I Re-Optimization.
 - a. Consultant shall furnish to IDOT a cover letter describing the extent of the re-optimization work performed.
 - b. Consultant shall furnish an updated intersection graphic display for the subject intersection to IDOT and to IDOT's Traffic Signal Maintenance Contractor.

(b) LEVEL II Re-Optimization

1. In addition to the requirements described in the LEVEL I Re-Optimization above, the following tasks are associated with LEVEL II Re-Optimization.
 - a. Traffic counts shall be taken at the subject intersection after the traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday. The turning movement counts shall identify cars, and single-unit, multi-unit heavy vehicles, and transit buses.

- b. As necessary, the intersections shall be re-addressed and all system detectors reassigned in the master controller according to the current standard of District One.
 - c. Traffic responsive program operation shall be evaluated to verify proper pattern selection and lack of oscillation and a report of the operation shall be provided to IDOT.
2. The following deliverables shall be provided for LEVEL II Re-Optimization.
- a. Consultant shall furnish to IDOT one (1) copy of a technical memorandum for the optimized system. The technical memorandum shall include the following elements:
 - (1) Brief description of the project
 - (2) Printed copies of the analysis output from Synchro (or other appropriate, approved optimization software file)
 - (3) Printed copies of the traffic counts conducted at the subject intersection
 - b. Consultant shall furnish to IDOT two (2) CDs for the optimized system. The CDs shall include the following elements:
 - (1) Electronic copy of the technical memorandum in PDF format
 - (2) Revised Synchro files (or other appropriate, approved optimization software file) including the new signal and the rest of the signals in the closed loop system
 - (3) Traffic counts conducted at the subject intersection
 - (4) New or updated intersection graphic display file for the subject intersection
 - (5) The CD shall be labeled with the IDOT system number and master location, as well as the submittal date and the consultant logo. The CD case shall include a clearly readable label displaying the same information securely affixed to the side and front.

Basis of Payment.

This work shall be paid for at the contract unit price each for RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM – LEVEL I or RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM – LEVEL II, which price shall be payment in full for performing all work described herein per intersection. Following completion of the timings and submittal of specified deliverables, 100 percent of the bid price will be paid.

OPTIMIZE TRAFFIC SIGNAL SYSTEM

Description.

This work shall consist of optimizing a closed loop traffic signal system.

OPTIMIZE TRAFFIC SIGNAL SYSTEM applies when a new or existing closed loop traffic signal system is to be optimized and a formal Signal Coordination and Timing (SCAT) Report is to be prepared. The purpose of this work is to improve system performance by optimizing traffic signal timings, developing a time of day program and a traffic responsive program.

After the signal improvements are completed, the signal system shall be optimized as specified by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants. Traffic signal system optimization work, including fine-tuning adjustments of the optimized system, shall follow the requirements stated in the most recent IDOT District 1 SCAT Guidelines, except as note herein.

A listing of existing signal equipment, interconnect information, phasing data, and timing patterns may be obtained from the Department, if available and as appropriate. The existing SCAT Report is available for review at the District One office and if the Consultant provides blank computer disks, copies of computer simulation files for the existing optimized system and a timing database that includes intersection displays will be made for the Consultant. The Consultant shall confer with the Traffic Signal Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system, in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the optimization.

(a) The following tasks are associated with OPTIMIZE TRAFFIC SIGNAL SYSTEM.

1. Appropriate signal timings and offsets shall be developed for each intersection and appropriate cycle lengths shall be developed for the closed loop signal system.
2. Traffic counts shall be taken at all intersections after the permanent traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday. The turning movement counts shall identify cars, and single-unit and multi-unit heavy vehicles.
3. As necessary, the intersections shall be re-addressed and all system detectors reassigned in the master controller according to the current standard of District One.
4. A traffic responsive program shall be developed, which considers both volume and occupancy. A time-of-day program shall be developed for used as a back-up system.
5. Proposed signal timing plan for the new or modified intersection shall be forwarded to IDOT for review prior to implementation.
6. Consultant shall conduct on-site implementation of the timings and make fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.
7. Speed and delay studies shall be conducted during each of the count periods along the system corridor in the field before and after implementation of the proposed timing plans for comparative evaluations. These studies should utilize specialized electronic timing and measuring devices.

(b) The following deliverables shall be provided for OPTIMIZE TRAFFIC SIGNAL SYSTEM.

1. Consultant shall furnish to IDOT one (1) copy of a SCAT Report for the optimized system. The SCAT Report shall include the following elements:

<p>Cover 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 detectors, oversaturated 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, followed 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 the 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.

TEMPORARY TRAFFIC SIGNAL TIMINGS

Description.

This work shall consist of developing and maintaining appropriate traffic signal timings for the specified intersection for the duration of the temporary signalized condition.

All timings and adjustments necessary for this work shall be performed by an approved Consultant who has previous experience in optimizing Closed Loop Traffic signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants.

The following tasks are associated with TEMPORARY TRAFFIC SIGNAL TIMINGS.

- (a) Consultant shall attend temporary traffic signal inspection (turn-on) and conduct on-site implementation of the traffic signal timings. Make fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.
- (b) Consultant shall provide monthly observation of traffic signal operations in the field.
- (c) Consultant shall provide on-site consultation and adjust timings as necessary for construction stage changes, temporary traffic signal phase changes, and any other conditions affecting timing and phasing, including lane closures, detours, and other construction activities.
- (d) Consultant shall make timing adjustments and prepare comment responses as directed by the Area Traffic Signal Operations Engineer.

Basis of Payment.

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

TEMPORARY TRAFFIC SIGNAL INSTALLATION.

Revise Section 890 of the Standard Specifications to read:

General.

Only an approved equipment vendor will be allowed to assemble the temporary traffic signal cabinet. Also, an approved equipment vendor shall assemble and test a temporary railroad traffic signal cabinet. (Refer to the "Inspection of Controller and Cabinet" specification). A representative of the approved control equipment vendor shall be present at the temporary traffic signal turn-on inspection.

Construction Requirements.

(a) Controllers.

1. Only controllers supplied by one of the District approved closed loop equipment manufacturers will be approved for use at temporary signal locations. All controllers used for temporary traffic signals shall be fully actuated NEMA microprocessor based with RS232 data entry ports compatible with existing monitoring software approved by IDOT District 1, installed in NEMA TS1 or TS2 cabinets with 8 phase back panels, capable of supplying 255 seconds of cycle length and individual phase length settings up to 99 seconds. On projects with one lane open and two way traffic flow, such as bridge deck repairs, the temporary signal controller shall be capable of providing an adjustable all red clearance setting of up to 30 seconds in length. All controllers used for temporary traffic signals shall meet or exceed the requirements of Section 857 of the Standard Specifications with regards to internal time base coordination and preemption.

2. All control equipment for the temporary traffic signal(s) shall be furnished by the Contractor unless otherwise stated in the plans. On projects with multiple temporary traffic signal installations, all controllers shall be the same manufacturer brand and model number with current software installed.
- (b) Cabinets. All temporary traffic signal cabinets shall have a closed bottom made of aluminum alloy. The bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust and insect-proof seal. The bottom shall provide a minimum of two (2) 4 inch (100 mm) diameter holes to run the electric cables through. The 4 inch (100 mm) diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.
 - (c) Grounding. Grounding shall be provided for the temporary traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code, Section 807 of the Standard Specifications and shall meet the requirements of the District 1 Traffic Signal Specifications for "Grounding of Traffic Signal Systems".
 - (d) Traffic Signal Heads. All traffic signal sections and pedestrian signal sections shall be 12 inches (300 mm). Traffic signal sections shall be LED with expandable view, unless otherwise approved by the Engineer. The temporary traffic signal heads shall be placed as indicated on the temporary traffic signal plan or as directed by the Engineer. The Contractor shall furnish enough extra cable length to relocate heads to any position on the span wire or at locations illustrated on the plans for construction staging. The temporary traffic signal shall remain in operation during all signal head relocations. Each temporary traffic signal head shall have its own cable from the controller cabinet to the signal head.
 - (e) Interconnect.
 1. Temporary traffic signal interconnect shall be provided using fiber optic cable or wireless interconnect technology as specified in the plans. The Contractor may request, in writing, to substitute the fiber optic temporary interconnect indicated in the contract documents with a wireless interconnect. The Contractor must provide assurances that the radio device will operate properly at all times and during all construction staging. If approved for use by the Engineer, the Contractor shall submit marked-up traffic signal plans indicating locations of radios and antennas and installation details. If wireless interconnect is used, and in the opinion of the engineer, it is not viable, or if it fails during testing or operations, the Contractor shall be responsible for installing all necessary poles, fiber optic cable, and other infrastructure for providing temporary fiber optic interconnect at no cost to the contract.
 2. The existing system interconnect and phone lines are to be maintained as part of the Temporary Traffic Signal Installation specified for on the plan. The interconnect shall be installed into the temporary controller cabinet as per the notes or details on the plans. All labor and equipment required to install and maintain the existing interconnect as part of the Temporary Traffic Signal Installation shall be included in the item Temporary Traffic Signal Installation. When shown in the plans, temporary traffic signal interconnect equipment shall be furnished and installed. The temporary traffic signal

interconnect shall maintain interconnect communications throughout the entire signal system for the duration of the project.

3. Temporary wireless interconnect, compete. The radio interconnect system shall be compatible with Eagle or Econolite controller closed loop systems. This item shall include all materials, labor and testing to provide the completely operational closed loop system as shown on the plans. The radio interconnect system shall include the following components:
 - a. Rack or Shelf Mounted RS-232 Frequency Hopping Spread Spectrum (FHSS) Radio
 - b. Software for Radio Configuration (Configure Frequency and Hopping Patterns)
 - c. Antennas (Omni Directional or Yagi Directional)
 - d. Antenna Cables, LMR400, Low Loss. Max. 100-ft from controller cabinet to antenna
 - e. Brackets, Mounting Hardware, and Accessories Required for Installation
 - f. RS232 Data Cable for Connection from the radio to the local or master controller
 - g. All other components required for a fully functional radio interconnect system

All controller cabinet modifications and other modifications to existing equipment that are required for the installation of the radio interconnect system components shall be included in this item.

The radio interconnect system may operate at 900Mhz (902-928) or 2.4 Ghz depending on the results of a site survey. The telemetry shall have an acceptable rate of transmission errors, time outs, etc. comparable to that of a hardwire system.

The proposed master controller and telemetry module shall be configured for use with the radio interconnect at a minimum rate of 9600 baud.

The radio interconnect system shall include all other components required for a complete and fully functional telemetry system and shall be installed in accordance to the manufacturers recommendations.

The following radio equipment is currently approved for use in Region One/District One: Encon Model 5100 and Intuicom Communicator II.

- (f) Emergency Vehicle Pre-Emption. All emergency vehicle preemption equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the temporary traffic signal plans shall be provided by the Contractor. It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle preemption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency. All light operated systems shall operate at a uniform rate of 14.035 hz \pm 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District. All labor and material required to install and

maintain the Emergency Vehicle Preemption installation shall be included in the item Temporary Traffic Signal Installation.

- (g) Vehicle Detection. All temporary traffic signal installations shall have vehicular detection installed as shown on the plans or as directed by the Engineer. Pedestrian push buttons shall be provided for all pedestrian signal heads/phases as shown on the plans or as directed by the Engineer. All approaches shall have vehicular detection provided by Video Vehicle Detection System as shown on the plans or as directed by the Engineer. The microwave vehicle sensor or video vehicle detection system shall be approved by IDOT before furnishing and installing. The Contractor shall install, wire, and adjust the alignment of the microwave vehicle sensor or video vehicle detection system in accordance to the manufacturer's recommendations and requirements. The Contractor shall be responsible for adjusting the alignment of the microwave vehicle sensor or video vehicle detection system for all construction staging changes and for maintaining proper alignment throughout the project. A representative of the approved control equipment vendor shall be present and assist the contractor in setting up and maintaining the microwave vehicle sensor or video vehicle detection system. An in-cabinet video monitor shall be provided with all video vehicle detection systems and shall be included in the item Temporary Traffic Signal Installation.
- (h) Signs. All existing street name and intersection regulatory signs shall be removed from existing poles and relocated to the temporary signal span wire. If new mast arm assembly and pole(s) and posts are specified for the permanent signals, the signs shall be relocated to the new equipment at no extra cost.
- (i) Energy Charges. The electrical utility energy charges for the operation of the traffic signal installation shall be paid for by others if the installation replaces an existing signal. Otherwise charges shall be paid for under 109.05 of the Standard Specifications.
- (j) Maintenance. Maintenance shall meet the requirements of the Traffic Specifications and District Specifications for "Maintenance of Existing Traffic Signal Installation." Maintenance of temporary signals and of the existing signals shall be included to the cost of this item. When temporary traffic signals are to be installed at locations where existing signals are presently operating, the Contractor shall be fully responsible for the maintenance of the existing signal installation as soon as he begins any physical work on the Contract or any portion thereof. Maintenance responsibility of the existing signals shall be included to the item Temporary Traffic Signal Installation(s). In addition, a minimum of seven (7) days prior to assuming maintenance of the existing traffic signal installation(s) under this Contract, the Contractor shall request that the Resident Engineer contact the Bureau of Traffic (847) 705-4424 for an inspection of the installation(s).
- (k) Temporary Traffic Signals for Bridge Projects. Temporary Traffic Signals for bridge projects shall follow the State Standards, Standard Specifications, District 1 Traffic Signal Specifications and any plans for Bridge Temporary Traffic Signals included in the plans. The installation shall meet the above requirements for "Temporary Traffic Signal Installation". In addition all electric cable shall be aerially suspended, at a minimum height of 18 feet (5.5m), on temporary wood poles (Class 5 or better) of 45 feet (13.7 m), minimum height. The signal heads shall be span wire mounted or bracket mounted to the wood pole or as directed by the Engineer. The Controller

cabinet shall be mounted to the wood pole or as directed by the Engineer. Microwave vehicle sensors or video vehicle detection may be used in place of the detector loops as approved by the Engineer.

(I) Temporary Portable Traffic Signal for Bridge Projects.

1. Unless otherwise directed by the Engineer, temporary portable traffic signals shall be restricted to use on roadways of less than 8000 ADT that have limited access to electric utility service, shall not be installed on projects where the estimated need exceeds ten (10) weeks, and shall not be in operation during the period of November through March. The Contractor shall replace the temporary portable traffic signals with temporary span wire traffic signals noted herein at no cost to the contract if the bridge project or Engineer requires temporary traffic signals to remain in operation into any part of period of November through March. If, in the opinion of the engineer, the reliability and safety of the temporary portable traffic signal is not similar to that of a temporary span wire traffic signal installation, the Contractor shall replace the temporary portable traffic signals with temporary span wire traffic signals noted herein at no cost to the contract.
2. The controller and LED signal displays shall meet the above requirements for "Temporary Traffic Signal Installation".
3. Work shall be according to Article 701.18(b) of the Standard Specifications except as noted herein.
4. General.
 - a. The temporary portable bridge traffic signals shall be trailer-mounted units. The trailer-mounted units shall be set up securely and level. Each unit shall be self-contained and consist of two signal heads. The left signal head shall be mounted on a mast arm capable of extending over the travel lane. Each unit shall contain a solar cell system to facilitate battery charging. There shall be a minimum of 12 days backup reserve battery supply and the units shall be capable of operating with a 120 V power supply from a generator or electrical service.
 - b. All signal heads located over the travel lane shall be mounted at a minimum height of 17 feet (5m) from the bottom of the signal back plate to the top of the road surface. All far right signal heads located outside the travel lane shall be mounted at a minimum height of 8 feet (2.5m) from the bottom of the signal back plate to the top of the adjacent travel lane surface.
 - c. The long all red intervals for the traffic signal controller shall be adjustable up to 250 seconds in one-second increments.
 - d. As an alternative to detector loops, temporary portable bridge traffic signals may be equipped with microwave sensors or other approved methods of vehicle detection and traffic actuation.

- e. All portable traffic signal units shall be interconnected using hardwire communication cable. Radio communication equipment may be used only with the approval of the Engineer. If radio communication is used, a site analysis shall be completed to ensure that there is no interference present that would affect the traffic signal operation. The radio equipment shall meet all applicable FCC requirements.
- f. The temporary portable bridge traffic signal system shall meet the physical display and operational requirements of conventional traffic signals as specified in Part IV of the Manual on Uniform Traffic Control Devices (MUTCD). The signal system shall be designed to continuously operate over an ambient temperature range between -30 °F (-34 °C) and 120 °F (48 °C). When not being utilized to inform and direct traffic, portable signals shall be treated as nonoperating equipment according to Article 701.11.
- g. Basis of Payment. This work will be paid for according to Article 701.20(c).

Basis of Payment.

This work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL INSTALLATION, TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION, or TEMPORARY PORTABLE BRIDGE TRAFFIC SIGNAL INSTALLATION. The price of which shall include all costs for the modifications required for traffic staging, changes in signal phasing as required in the Contract plans, microwave vehicle sensors, video vehicle detection system, any maintenance or adjustment to the microwave vehicle sensors/video vehicle detection system, all material required, the installation and complete removal of the temporary traffic signal.

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT.

Add the following to Article 895.05 of the Standard Specifications:

The traffic signal equipment which is to be removed and is to become the property of the Contractor shall be disposed of outside the right-of-way at the Contractor's expense.

All equipment to be returned to the State shall be delivered by the Contractor to the State's Traffic Signal Maintenance Contractor's main facility. The Contractor shall contact the State's Electrical Maintenance Contractor to schedule an appointment to deliver the equipment. No equipment will be accepted without a prior appointment. All equipment shall be delivered within 30 days of removing it from the traffic signal installation. The Contractor shall provide 5 copies of a list of equipment that is to remain the property of the State, including model and serial numbers, where applicable. He shall also provide a copy of the Contract plan or special provision showing the quantities and type of equipment. Controllers and peripheral equipment from the same location shall be boxed together (equipment from different locations may not be mixed) and all boxes and controller cabinets shall be clearly marked or labeled with the location from which they were removed. If equipment is not returned with these requirements, it will be rejected by the State's Electrical Maintenance Contractor. The Contractor shall be responsible for the condition of the traffic signal equipment from the time he takes maintenance of the signal installation until the acceptance of a receipt drawn by the State's Electrical Maintenance Contractor indicating the items have been returned in good condition.

The Contractor shall safely store and arrange for pick up of all equipment to be returned to agencies other than the State. The Contractor shall package the equipment and provide all necessary documentation as stated above.

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of these Specifications.

TRAFFIC SIGNAL PAINTING.

Description.

This work shall include surface preparation, powder type painted finish application and packaging of new galvanized steel traffic signal mast arm poles and posts assemblies. All work associated with applying the painted finish shall be performed at the manufacturing facility for the pole assembly or post or at a painting facility approved by the Engineer. Traffic signal mast arm shrouds and post bases shall also be painted the same color as the pole assemblies and posts.

Surface Preparation.

All weld flux and other contaminates shall be mechanically removed. The traffic mast arms and post assemblies shall be degreased, cleaned, and air dried to assure all moisture is removed.

Painted Finish.

All galvanized exterior surfaces shall be coated with a urethane or triglycidyl isocyanurate (TGIC) polyester powder to a dry film thickness of 2.0 mils. Prior to application, the surface shall be mechanically etched by brush blasting (Ref. SSPC-SP7) and the zinc coated substrate preheated to 450 degrees F for a minimum one (1) hour. The coating shall be electrostatically applied and cured by elevating the zinc-coated substrate temperature to a minimum of 400 degrees F.

The finish paint color shall be one of the manufacturer's standard colors and shall be as selected by the local agency responsible for paint costs. The Contractor shall confirm, in writing, the color selection with the local responsible agency and provide a copy of the approval to the Engineer and a copy of the approval shall be included in the material catalog submittal.

Traffic signal heads, pedestrian signal heads and controller cabinets are not included in this pay item.

Any damage to the finish after leaving the manufacturer's facility shall be repaired to the satisfaction of the Engineer using a method approvable by the Engineer and manufacturer. If while at the manufacturer's facility the finish is damaged, the finish shall be re-applied.

Warranty.

The Contractor shall furnish in writing to the Engineer, the paint manufacturer's standard warranty and certification that the paint system has been properly applied.

Packaging.

Prior to shipping, the poles and posts shall be wrapped in ultraviolet-inhibiting plastic foam or rubberized foam.

Basis of Payment.

This work shall be paid for at the contract unit price each for PAINT NEW MAST ARM POLE, UNDER 40 FEET (12.19 METER); PAINT NEW MAST ARM POLE, 40 FEET (12.19 METER) AND OVER; PAINT NEW COMBINATION MAST ARM POLE, UNDER 40 FEET (12.19 METER); PAINT NEW COMBINATION MAST ARM POLE, 40 FEET (12.19 METER) AND OVER; or TRAFFIC SIGNAL POST of any height, which shall be payment in full for painting and packaging the traffic signal mast arm poles and posts described above including all shrouds, bases and appurtenances.

DIVISION 1000 MATERIALS

PEDESTRIAN PUSH-BUTTON.

Revise Article 1074.02 of the Standard Specifications to read:

- (a) General. Push-button assemblies shall be ADA compliant, highly vandal resistant, be pressure activated with minimal movement and cannot be stuck in a closed or constant call position. A red LED and audible tone shall be provided for confirmation of an actuation call.
- (b) Housing. The push-button housing shall be solid 6061 aluminum and powder coated yellow, unless otherwise noted on the plans.
- (c) Actuator. The actuator shall be stainless steel with a solid state electronic Piezo switch rated for a minimum of 20 million cycles with no moving plunger or moving electrical contacts. The operating voltage shall be 12-24 V AC/DC.
- (d) Pedestrian Station. Stations shall be designed to be mounted directly to a post, mast arm pole or wood pole. The station shall be aluminum and accept a 3-inch round push button assembly and 5 X 7 ¼ -inch R10-3b or R10-3d sign. A larger station will be necessary to accommodate the sign, R10-3e, for a count-down pedestrian signal.

CONTROLLER CABINET AND PERIPHERAL EQUIPMENT.

Add the following to Article 1074.03 of the Standard Specifications:

- (a) Cabinets shall be designed for NEMA TS2 Type 1 operation. All cabinets shall be pre-wired for a minimum of eight (8) phases of vehicular, four (4) phases of pedestrian and four (4) phases of overlap operation.
- (b)(5) Cabinets – Provide 1/8" (3.2 mm) thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel.
- (b) (6) Controller Harness – Provide a TS2 Type 2 "A" wired harness in addition to the TS2 Type 1 harness.
- (b) (7) Surge Protection – EDCO Model 1210 IRS with failure indicator.
- (b) (8) BIU – Containment screw required.
- (b) (9) Transfer Relays – Solid state or mechanical flash relays are acceptable.
- (b) (10) Switch Guards – All switches shall be guarded.
- (b) (11) Heating – Two (2) porcelain light receptacles with cage protection controlled by both a wall switch and a thermostat or a thermostatically controlled 150 watt strip heater.
- (b) (12) Plan & Wiring Diagrams – 12" x 16" (3.05mm x 4.06mm) moisture sealed container attached to door.
- (b) (13) Detector Racks – Fully wired and labeled for four (4) channels of emergency vehicle pre-emption and sixteen channels (16) of vehicular operation.
- (b) (14) Field Wiring Labels – All field wiring shall be labeled.
- (b) (15) Field Wiring Termination – Approved channel lugs required.
- (b) (16) Power Panel – Provide a nonconductive shield.
- (b) (17) Circuit Breaker – The circuit breaker shall be sized for the proposed load but shall not be rated less than 30 amps.

- (b) (18) Police Door – Provide wiring and termination for plug in manual phase advance switch.
- (b) (19) Railroad Pre-Emption Test Switch – Eaton 8830K13 SHA 1250 or equivalent.

RAILROAD, FULL-ACTUATED CONTROLLER AND CABINET.

Add the following to Article 857.02 of the Standard Specifications:

Controller shall comply with Article 1073.01 as amended in these Traffic Signal Special Provisions.

Controller Cabinet and Peripheral Equipment shall comply with Article 1074.03 as amended in these Traffic Signal Special Provisions.

Add the following to Articles 1073.01 (c) (2) and 1074.03 (a) (5) (e) of the Standard Specifications:

Controllers and cabinets shall be new and NEMA TS2 Type 1 design.

A method of monitoring and/or providing redundancy to the railroad preemptor input to the controller shall be included as a component of the Railroad, Full Actuated Controller and Cabinet installation and be verified by the traffic signal equipment supplier prior to installation.

Railroad interconnected controllers and cabinets shall be assembled only by an approved traffic signal equipment supplier. The equipment shall be tested and approved in the equipment supplier's District One facility prior to field installation.

ELECTRIC CABLE.

Delete "or stranded, and No. 12 or" from the last sentence of Article 1076.04 (a) of the Standard Specifications.

MAST ARM ASSEMBLY AND POLE.

Add the following to Article 1077.03 (a) of the Standard Specifications:

Traffic signal mast arms shall be one piece construction, unless otherwise approved by the Engineer. All poles shall be galvanized. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization.

This work shall consist of furnishing and installing a galvanized steel or extruded aluminum shroud for protection of the mast arm pole base plate similar to the dimensions detailed in the "District One Standard Traffic Signal Design Details." The shroud shall be of sufficient strength to deter pedestrian and vehicular damage. The shroud shall allow air to circulate throughout the mast arm but not allow infestation of insects or other animals. The shroud shall be constructed, installed and designed not to be hazardous to probing fingers and feet. All mounting hardware shall be stainless steel. The shroud shall not be paid for separately but shall be included in the cost of the mast arm assembly and pole.

TRAFFIC SIGNAL POST.

Add the following to Article 1077.01 (b) of the Standard Specifications:

All posts and bases shall be steel and hot dipped galvanized. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization.

SIGNAL HEADS.

Add the following to Section 1078 of the Standard Specifications to read:

All signal and pedestrian heads shall provide 12" (300 mm) displays with glossy yellow or black polycarbonate housings. All head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all signal and/or pedestrian heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on. Post top mounting collars are required on all posts, and shall be constructed of the same material as the brackets.

Pedestrian signal heads shall be furnished with the international symbolic "Walking Person" and "Upraised Palm" lenses. Egg crate sun shields are not permitted.

Signal heads shall be positioned according to the "District One Standard Traffic Signal Design Details."

SIGNAL HEAD, BACKPLATE.

Delete 1st sentence of Article 1078.03 of the Standard Specifications and add "All backplates shall be aluminum and louvered".

INDUCTIVE LOOP DETECTOR.

Add the following to Article 1079.01 of the Standard Specifications:

Contracts requiring new cabinets shall provide for card mounted detector amplifiers. Loop amplifiers shall provide LCD displays with loop frequency, inductance, and change of inductance readings.

ILLUMINATED SIGN, LIGHT EMITTING DIODE.

Revise Sections 891 of the Standard Specifications to read:

Description.

This work shall consist of furnishing and installing an illuminated sign with light emitting diodes.

General.

The light emitting diode (LED) blank out signs shall be manufactured by National Sign & Signal Company, or an approved equal and consist of a weatherproof housing and door, LEDs and transformers.

(a) Display.

1. The LED blank out sign shall provide the correct symbol and color for "NO LEFT TURN" OR "NO RIGHT TURN" indicated in accordance with the requirements of the "Manual on Uniform Traffic Control Devices". The message shall be formed by rows of LEDs.
2. The message shall be clearly legible. The message shall be highly visible, anywhere and under any lighting conditions, within a 15 degree cone centered about the optic axis.

The sign face shall be 24 inches (600 mm) by 24 inches (600 mm). The sign face shall be completely illegible when not illuminated. No symbol shall be seen under any ambient light condition when not illuminated.

3. All LEDs shall be T-1 3/4 (5mm) and have an expected lamplife of 100,000 hours. Operating wavelengths will be Red-626nm, Amber-590nm, and Bluish/Green-505nm. Transformers shall be rated for the line voltage with Class A insulation and weatherproofing. The sign shall be designed for operation over a range of temperatures from -35F to +165 F (-37C to +75C).
4. The LED module shall include the message plate, high intensity LEDs and LED drive electronics. Door panels shall be flat black and electrical connections shall be made via barrier-type terminal strip. All fasteners and hardware shall be corrosion resistant stainless steel.

(b) Housing.

1. The housing shall be constructed of extruded aluminum. All corners and seams shall be heli-arc welded to provide a weatherproof seal around the entire case. Hinges shall be continuous full-length stainless steel. Signs shall have stainless steel hardware and provide tool free access to the interior of the sign. Doors shall be 0.125-inch thick extruded aluminum with a 3/16-inch x 1-inch neoprene gasket and sun hood. The sign face shall have a polycarbonate, matte clear, lexan face plate. Drainage shall be provided by four drain holes at the corners of the housing. The finish on the sign housing shall include two coats of exterior enamel applied after the surface is acid-etched and primed with zinc-chromate primer.
2. Mounting hardware shall be black polycarbonate or galvanized steel and similar to mounting Signal Head hardware and brackets specified herein.

Basis of Payment.

This work shall be paid for at the unit price each for ILLUMINATED SIGN, L.E.D.

GROUNDING EXISTING HANDHOLE FRAME AND COVER.

Description.

This work shall consist of all materials and labor required to bond the equipment grounding conductor to the existing handhole frame and handhole cover. All installations shall meet the requirements of the details in the "District One Standard Traffic Signal Design Details" and applicable portions of the Specifications.

The equipment grounding conductor shall be bonded to the handhole frame and to the handhole cover. Two (2) ½-inch diameter x 1 ¼-inch long hex-head stainless steel bolts, spaced 1.75-inches apart center-to-center shall be fully welded to the frame and to the cover to accommodate a heavy duty Listed grounding compression terminal (Burdny type YGHA or approved equal). The grounding compression terminal shall be secured to the bolts with stainless steel split-lock washers and nylon-insert locknuts.

Welding preparation for the stainless steel bolt hex-head to the frame and to the cover shall include thoroughly cleaning the contact and weldment area of all rust, dirt and contaminants. The Contractor shall assure a solid strong weld. The welds shall be smooth and thoroughly cleaned of flux and spatter. The grounding installation shall not affect the proper seating of the cover when closed.

The grounding cable shall be paid for separately.

Method of Measurement.

Units measured for payment will be counted on a per handhole basis, regardless of the type of handhole and its location.

Basis of Payment.

This work shall be paid for at the contract unit price each for GROUNDING EXISTING HANDHOLE FRAME AND COVER which shall be payment in full for grounding the handhole complete.

UNIT DUCT.

All installations of Unit Duct shall be included in the contract and not paid for separately. Polyethylene unit duct shall be used for detector loop raceways to the handholes. On temporary traffic signal installations with detector loops, polyethylene unit duct shall be used for detector loop raceways from the saw-cut to 10 feet (3m) up the wood pole, unless otherwise shown on the plans. Unit duct shall meet the requirements of NEC Article 343.

UNINTERRUPTIBLE POWER SUPPLY (UPS).

Description.

This work shall consist of furnishing and installing an uninterruptible power supply (UPS).

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.

The UPS shall include, but not be limited to the following: inverter/charger, power transfer relay, batteries, battery cabinet, a separate manually operated non-electronic bypass switch, and all necessary hardware and interconnect wiring according to the plans. The UPS shall provide reliable emergency power to the traffic signals in the event of a power failure or interruption. The transfer from utility power to battery power and visa versa shall not interfere with the normal operation of traffic controller, conflict monitor/malfunction management unit, or any other peripheral devices within the traffic controller assembly.

The UPS shall be designed for outdoor applications, and shall meet the environmental requirements of, "NEMA Standards Publication No. TS 2 – Traffic Controller Assemblies", except as modified herein.

Materials.

The UPS shall be line interactive and provide voltage regulation and power conditioning when utilizing utility power. The UPS shall be sized appropriately for the intersection's normal traffic signal operating connected load, plus 20 percent (20%). The total connected traffic signal load shall not exceed the published ratings for the UPS. The UPS shall provide a minimum of six (6) hours of normal operation run-time for signalized intersections with LED type signal head optics at 77 °F (25 °C) (minimum 700 W/VA active output capacity, with 90 percent minimum inverter efficiency).

The maximum transfer time from loss of utility power to switchover to battery backed inverter power shall be 65 milliseconds.

The UPS shall have a minimum of three (3) sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) relay contact closures, available on a panel mounted terminal block or locking circular connectors, rated at a minimum 120 V/1 A, and labeled so as to identify each contact according to the plans. Contact closures shall be energized whenever the unit:

- Switches to battery power. Contact shall be labeled or marked "On Batt".
- Has been connected to battery power for two (2) hours. Contact shall be labeled or marked "Timer".
- Has an inverter/charger failure. Contact shall be labeled or marked "UPS Fail".

Operating temperature for the inverter/charger, power transfer relay, and manual bypass switch shall be -35 to 165 °F (-37 to +74 °C).

Both the power transfer relay and manual bypass switch shall be rated at 240 VAC/30 amps, minimum.

The UPS shall use a temperature-compensated battery charging system. The charging system shall compensate over a range of 1.4 – 2.2 mV/°F (2.5 - 4.0 mV/°C) per cell. The temperature sensor shall be external to the inverter/charger unit. The temperature sensor shall come with 6.5 ft (2 m) of wire.

Batteries shall not be recharged when battery temperature exceeds $122\text{ }^{\circ}\text{F} \pm 5\text{ }^{\circ}\text{F}$ ($50\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$).

The UPS shall bypass the utility line power whenever the utility line voltage is outside of the following voltage range: 85 VAC to 135 VAC ($\pm 2\text{ VAC}$).

When utilizing battery power, the UPS output voltage shall be between 110 and 125 VAC, pure sine wave output, 3 percent THD, $60\text{ Hz} \pm 3\text{ Hz}$.

The UPS shall be compatible with the District's approved traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation.

When the utility line power has been restored at above $90\text{ VAC} \pm 2\text{ VAC}$ for more than 30 seconds, the UPS shall dropout of battery backup mode and return to utility line mode.

When the utility line power has been restored at below $130\text{ VAC} \pm 2\text{ VAC}$ for more than 30 seconds, the UPS shall dropout of battery backup mode and return to utility line mode.

The UPS shall be equipped to prevent a malfunction feedback to the cabinet or from feeding back to the utility service.

In the event of inverter/charger failure, the power transfer relay shall revert to the NC state, where utility line power is reconnected to the cabinet. In the event of an UPS fault condition, the UPS shall always revert back to utility line power.

Recharge time for the battery, from "protective low-cutoff" to 80 percent or more of full battery charge capacity, shall not exceed twenty hours.

The manual bypass switch shall be wired to provide power to the UPS when the switch is set to manual bypass.

When the intersection is in battery backup mode, the UPS shall bypass all internal cabinet lights, ventilation fans, service receptacles, any lighted street name signs, any automated enforcement equipment and any other devices directed by the Engineer.

As the battery reserve capacity reaches 50 percent, the intersection shall automatically be placed in all-red flash. The UPS shall allow the controller to automatically resume normal operation after the power has been restored. The UPS shall log an alarm in the controller for each time it is activated.

A blue LED indicator light shall be mounted on the front of the traffic signal cabinet or on the side of the UPS cabinet facing traffic and shall turn on to indicate when the cabinet power has been disrupted and the UPS is in operation. The light shall be a minimum 1 in. (25 mm) diameter, be viewable from the driving lanes, and able to be seen from 200 ft (60 m) away.

All 24 volt and 48 volt systems shall include an external or internal component that monitors battery charging to ensure that every battery in the string is fully charged. The device shall compensate for the effects of adding a new battery to an existing battery system by ensuring that the charge voltage is spread equally across all batteries.

Mounting/Configuration.

The inverter/charger unit shall be rack or shelf-mounted.

All interconnect wiring provided between the power transfer relay, manual bypass switch, and cabinet terminal service block shall be at least 6.5 ft (2 m) of #10 AWG wire.

Relay contact wiring provided for each set of NO/NC relay contact closure terminals shall be 6.5 ft (2 m) of #18 AWG wire.

Battery Cabinet.

Batteries, inverter/charger and power transfer relay shall be housed in a separate NEMA Type 3R cabinet. The cabinet shall be Aluminum alloy, 5052-H32, 0.125-inch thick and have a natural mill finish.

The door shall open to the entire cabinet, have a neoprene gasket, an Aluminum continuous piano hinge with stainless steel pin, and a three point locking system. The cabinet shall be provided with a main door lock which shall operate with a traffic industry conventional No. 2 key. Provisions for padlocking the door shall be provided.

The manually bypass switch shall be installed inside the traffic signal cabinet.

No more than three batteries shall be mounted on individual shelves for a cabinet housing six batteries and no more than four batteries per shelf for a cabinet housing eight batteries.

A minimum of three shelves shall be provided. Each shelf shall support a load of 132 lb (60 kg) minimum.

The battery cabinet housing shall have the following nominal outside dimensions: a width of 25 in. (785 mm), a depth of 16 in. (440 mm), and a height of 41 to 48 in. (1.1 to 1.3 m). Clearance between shelves shall be a minimum of 10 in. (250 mm).

The battery cabinet shall be ventilated through the use of louvered vents, filters, and one thermostatically controlled fan. The cabinet fan shall not be energized when the traffic signals are on UPS power.

The battery cabinet shall have provisions for an external generator connection.

The UPS with battery cabinet shall come with all bolts, conduits and bushings, gaskets, shelves, and hardware needed for mounting. A warning sticker shall be placed on the outside of the cabinet indicating that there is an uninterruptible power supply inside the cabinet.

Maintenance, Displays, Controls, and Diagnostics.

The UPS shall include a display and/or meter to indicate current battery charge status and conditions.

The UPS shall have lightning surge protection compliant with IEEE/ANSI C.62.41.

The UPS shall be equipped with an integral system to prevent battery from destructive discharge and overcharge.

The UPS hardware and batteries shall be easily replaced without requiring any special tools or devices.

The UPS shall include a resettable front-panel event counter display to indicate the number of times the UPS was activated. The total number of hours the unit has operated on battery power shall be available from the controller unit or UPS unit.

The UPS shall be equipped with an RS-232 port.

The UPS shall include tip or kill switch installed in the battery cabinet, which shall completely disconnect power from the UPS when the switch is manually activated.

The UPS shall incorporate a flanged electric generator inlet for charging the batteries and operating the UPS. The generator connector shall be male type, twist-lock, rated as 15A, 125VAC with a NEMA L5-15P configuration and weatherproof lift cover plate (Hubbell model HBL4716C or approved equal). Access to the generator inlet shall be from a secured weatherproof lift cover plate or behind a locked battery cabinet police panel.

The manufacturer shall include two sets of equipment lists, operation and maintenance manuals, board-level schematic and wiring diagrams of the UPS, and battery data sheets. The manufacturer shall include any software needed to monitor, diagnose, and operate the UPS. The manufacturer shall include any required cables to connect the UPS to a laptop computer.

Battery System.

Individual batteries shall be 12 V type, 65 amp-hour minimum capacity at 20 hours, and shall be easily replaced and commercially available off the shelf.

The UPS shall consist of an even number of batteries that are capable of maintaining normal operation of the signalized intersection for a minimum of six hours. Calculations shall be provided showing the number of batteries of the type supplied that are needed to satisfy this requirement. A minimum of four batteries shall be provided.

All batteries supplied in the UPS shall be either gel cell or AGM type, deep cycle, completely sealed, prismatic leadcalcium based, silver alloy, valve regulated lead acid (VRLA) requiring no maintenance. All batteries in a UPS installation shall be the same type; mixing of gel cell and AGM types within a UPS installation is not permitted.

Batteries shall be certified by the manufacturer to operate over a temperature range of -13 to 160 °F (-25 to + 71 °C) for gel cell batteries and -40 to 140 °F (-40 to + 60 °C) for AGM type batteries.

The batteries shall be provided with appropriate interconnect wiring and corrosion resistant mounting trays and/or brackets appropriate for the cabinet into which they will be installed.

Batteries shall indicate maximum recharge data and recharging cycles.

Battery interconnect wiring shall be via a modular harness. Batteries shall be shipped with positive and negative terminals pre-wired with red and black cabling that terminates into a typical power-pole style connector. The harness shall be equipped with mating power-pole style connectors for the batteries and a single, insulated plug-in style connection to the inverter/charger unit. The harness shall allow batteries to be quickly and easily connected in any order and shall be keyed and wired to ensure proper polarity and circuit configuration.

Battery terminals shall be covered and insulated so as to prevent accidental shorting.

Warranty.

The warranty for an uninterruptible power supply (UPS) shall cover a minimum of two years from date the equipment is placed in operation; however, the batteries of the UPS shall be warranted for full replacement for a minimum of five years from the date the traffic signal and UPS are placed into service.

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.

Basis of Payment.

This work will be paid for at the contract unit price per each for UNINTERRUPTIBLE POWER SUPPLY.

SIGNAL HEAD, LIGHT EMITTING DIODE.

Description.

This work shall consist of furnishing and installing a traffic signal head or pedestrian signal head with light emitting diodes (LED) of the type specified in the plan or retrofitting an existing traffic signal head with a traffic signal module or pedestrian signal module with LEDs as specified in the plans.

General.

LED signal heads (All Face and Section Quantities), (All Mounting Types) shall conform fully to the requirements of Sections 880 and 881 and Articles 1078.01 and 1078.02 of the "Standard Specifications for Road and Bridge Construction," adopted January 1, 2007, and amended herein:

1. The LED signal modules shall be replaced or repaired if an LED signal module fails to function as intended due to workmanship or material defects within the first 60 months from the date of delivery. LED signal modules which exhibit luminous intensities less than the minimum values specified in Table 1 of the ITE Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement (June 27, 2005) [VTSCH] or show signs of entrance of moisture or contaminants within the first 60 months of the date of delivery shall be replaced or repaired. The manufacturer's written warranty for the LED signal modules shall be dated, signed by an Officer of the company and included in the product submittal to the State.
2. Each module shall consist of an assembly that utilizes LEDs as the light source in lieu of an incandescent lamp for use in traffic signal sections.

(a) Physical and Mechanical Requirements

1. Modules can be manufactured under this specification for the following faces:
 - a. 12 inch (300 mm) circular, multi-section
 - b. 12 inch (300 mm) arrow, multi-section
 - c. 12 inch (300 mm) pedestrian, 2 sections
2. The maximum weight of a module shall be 4 lbs. (1.8 kg).
3. Each module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
4. Material used for the lens and signal module construction shall conform to ASTM specifications for the materials.
5. The lens of the module shall be tinted with a wavelength-matched color to reduce sun phantom effect and enhance on/off contrast. The tinting shall be uniform across the lens face. Polymeric lens shall provide a surface coating or chemical surface treatment applied to provide abrasion resistance. The lens of the module shall be integral to the unit, convex with a smooth outer surface and made of plastic. The lens shall have a textured surface to reduce glare.
6. The use of tinting or other materials to enhance ON/OFF contrasts shall not affect chromaticity and shall be uniform across the face of the lens.

7. Each module shall have a symbol of the type of module (i.e. circle, arrow, etc.) in the color of the module. The symbol shall be 1 inch (25.4 mm) in diameter. Additionally, the color shall be written out in 1/2 inch (12.7mm) letters next to the symbol.

(b) Photometric Requirements

1. The minimum initial luminous intensity values for the modules shall conform to the values in Table 1 of the VTCSH (2005) for circular signal indications, and as stated in Table 3 of these specifications for arrow and pedestrian indications at 25°C.
2. The modules shall meet or exceed the illumination values stated in Article 1078.01(3)c of the "Standard Specifications for Road and Bridge Construction," Adopted January 1, 2007 for circular signal indications, and Table 3 of these specifications for arrow and pedestrian indications, throughout the useful life based on normal use in a traffic signal operation over the operating temperature range.
3. The measured chromaticity coordinates of the modules shall conform to the chromaticity requirements of Section 4.2 of the VTCSH (2005).
4. The LEDs utilized in the modules shall be AlInGaP technology for red, yellow, Portland orange (pedestrian) and white (pedestrian) indications, and GaN for green indications, and shall be the ultra bright type rated for 100,000 hours of continuous operation from -40°C to +74°C.

(c) Electrical

1. Maximum power consumption for LED modules is per Table 2.
2. LED modules will have EPA Energy Star compliance ratings, if applicable to that shape, size and color.
3. Operating voltage of the modules shall be 120 VAC. All parameters shall be measured at this voltage.
4. The modules shall be operationally compatible with currently used controller assemblies (solid state load switches, flashers, and conflict monitors).
5. When a current of 20 mA AC (or less) is applied to the unit, the voltage read across the two leads shall be 15 VAC or less.
6. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.
7. The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

(d) Retrofit Traffic Signal Module

1. The following specification requirements apply to the Retrofit module only. All general specifications apply unless specifically superseded in this section.

2. Retrofit modules can be manufactured under this specification for the following faces:
 - a. 12 inch (300 mm) circular, multi-section
 - b. 12 inch (300 mm) arrow, multi-section
 - c. 12 inch (300 mm) pedestrian, 2 sections
 3. Each Retrofit module shall be designed to be installed in the doorframe of a standard traffic signal housing. The Retrofit module shall be sealed in the doorframe with a one-piece EPDM (ethylene propylene rubber) gasket.
 4. The maximum weight of a Retrofit module shall be 4 lbs. (1.8 kg).
 5. Each Retrofit module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
 6. Electrical conductors for modules, including Retrofit modules, shall be 39.4 inches (1m) in length, with quick disconnect terminals attached.
 7. The lens of the Retrofit module shall be integral to the unit, shall be convex with a smooth outer surface and made of plastic or of glass.
- (e) The following specification requirements apply to the 12 inch (300 mm) arrow module only. All general specifications apply unless specifically superseded in this section.
1. The arrow module shall meet specifications stated in Section 9.01 of the Equipment and Material Standards of the Institute of Transportation Engineers (November 1998) [ITE Standards], Chapter 2 (Vehicle Traffic Control Signal Heads) for arrow indications.
 2. The LEDs arrow indication shall be a solid display with a minimum of three (3) outlining rows of LEDs and at least one (1) fill row of LEDs.
- (f) The following specification requirement applies to the 12 inch (300 mm) programmed visibility (PV) module only. All general specifications apply unless specifically superseded in this section.
1. The LED module shall be a module designed and constructed to be installed in a programmed visibility (PV) signal housing without modification to the housing.
- (g) The following specification requirements apply to the 12 inch (300 mm) Pedestrian module only. All general specifications apply unless specifically superseded in this section.
1. Each pedestrian signal LED module shall provide the ability to actuate the solid upraised hand and the solid walking person on one 12 inch (300mm) section.
 2. Two (2) pedestrian sections shall be installed. The top section shall be wired to illuminate only the upraised hand and the bottom section shall be the walking man.
 3. "Egg Crate" type sun shields are not permitted. All figures must be a minimum of 9 inches (225mm) in height and easily identified from a distance of 120-feet (36.6m).

Basis of Payment.

This item shall be paid for at the contract unit price each for SIGNAL HEAD, LED, of the type specified, which price shall be payment in full for furnishing the equipment described above including signal head, LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition.

The type specified will indicate the number of signal faces, the number of signal sections, and the method of mounting.

Pedestrian head(s) shall be paid for at the contract unit price each for PEDESTRIAN SIGNAL HEAD, LED, of the type specified and of the particular kind of material when specified.

The type specified will indicate the number of faces and the method of mounting.

When installed in an existing signal head, this item shall be paid for at the contract unit price each for SIGNAL HEAD, LED of the type specified, RETROFIT, which price shall be payment in full for furnishing the equipment described above including LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition.

The type specified will indicate the number of signal faces, the number of signal sections, and the method of mounting.

When installed in an existing signal head, this item shall be paid for at the contract unit price each for PEDESTRIAN SIGNAL HEAD, LED, of the type specified, RETROFIT, which price shall be payment in full for furnishing the equipment described above including LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition.

The type specified will indicate the number of faces and the method of mounting.

TABLES

Table 2 Maximum Power Consumption (in Watts)

	Red		Yellow		Green	
	25°C	74°C	25°C	74°C	25°C	74°C
12 inch (300 mm) circular	11	17	22	25	15	15
12 inch (300 mm) arrow	9	12	10	12	11	11
	Hand-Portland Orange		Person-White			
Pedestrian Indication	6.2		6.3			

Table 3 Minimum Initial & Maintained Intensities for Arrow and Pedestrian Indications (in cd/m²)

	Red	Yellow	Green
Arrow Indication	5,500	11,000	11,000

PEDESTRIAN COUNTDOWN SIGNAL HEAD, LIGHT EMITTING DIODE.

Description.

This work shall consist of furnishing and installing a pedestrian countdown signal head, with light emitting diodes (LED) of the type specified in the plan.

Pedestrian Countdown Signal Head, Light Emitting Diode, shall conform fully to the SIGNAL HEAD, LIGHT EMITTING DIODE specification, with the following modifications:

(a) Application.

1. Pedestrian Countdown Signal Heads, shall not be used at signalized intersections where traffic signals and railroad warning devices are interconnected.

2. All pedestrian signals at an intersection shall be the same type and have the same display. No mixing of countdown and other types of pedestrian traffic signals will be permitted.

(b) General.

1. The module shall operate in one mode: Clearance Cycle Countdown Mode Only. The countdown module shall display actual controller programmed clearance cycle and shall start counting when the flashing clearance signal turns on and shall countdown to "0" and turn off when the steady Upraised Hand (symbolizing Don't Walk) signal turns on. Module shall not have user accessible switches or controls for modification of cycle.
2. At power on, the module shall enter a single automatic learning cycle. During the automatic learning cycle, the countdown display shall remain dark.
3. The module shall re-program itself if it detects any increase or decrease of Pedestrian Timing. The counting unit will go blank once a change is detected and then take one complete pedestrian cycle (with no counter during this cycle) to adjust its buffer timer.
4. The module shall allow for consecutive cycles without displaying the steady Upraised Hand.
5. The module shall recognize preemption events and temporarily modify the crossing cycle accordingly.
6. If the controller preempts during the Walking Person (symbolizing Walk), the countdown will follow the controller's directions and will adjust from Walking Person to flashing Upraised Hand. It will start to count down during the flashing Upraised Hand.
7. If the controller preempts during the flashing Upraised Hand, the countdown will continue to count down without interruption.
8. The next cycle, following the preemption event, shall use the correct, initially programmed values.
9. If the controller output displays Upraised Hand steady condition and the unit has not arrived to zero or if both the Upraised Hand and Walking Person are dark for some reason, the unit suspends any timing and the digits will go dark.
10. The digits will go dark for one pedestrian cycle after loss of power of more than 1.5 seconds.
11. The countdown numerals shall be two (2) "7 segment" digits forming the time display utilizing two rows of LEDs.
12. The LED module shall meet the requirements of the Institute of Transportation Engineers (ITE) LED purchase specification, "Pedestrian Traffic Control Signal Indications - Part 2: LED Pedestrian Traffic Signal Modules," or applicable successor ITE specifications, except as modified herein.

13. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.
14. In the event of a power outage, light output from the LED modules shall cease instantaneously.
15. The LEDs utilized in the modules shall be AllnGaP technology for Portland Orange (Countdown Numerals and Upraised Hand) and GaN technology for Lunar White (Walking Person) indications.
16. The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

(c) Pedestrian Countdown Signal Heads.

1. Pedestrian Countdown Signal Heads shall be 16 inch (406mm) x 18 inch (457mm), for single units with the housings glossy black polycarbonate. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on.
2. Each pedestrian signal LED module shall be fully MUTCD compliant and shall consist of double overlay message combining full LED symbols of an Upraised Hand and a Walking Person. "Egg Crate" type sun shields are not permitted. Numerals shall measure 9 inches (229mm) in height and easily identified from a distance of 120 feet (36.6m).

(d) Electrical.

1. Maximum power consumption for LED modules is 29 watts.
2. The measured chromaticity shall remain unchanged over the input line voltage range listed of 80 VAC to 135 VAC.

Basis of Payment.

This item shall be paid for at the contract unit price each for PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED, of the type specified, which shall be payment in full for furnishing the equipment described above including LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of faces and the method of mounting.

Ridge Avenue STP Improvement
Section No. 06-00241-00-PV
Job No.: C-91-145-07
Project No. HPP-0703(209)
Contract No.: 83968

STORM WATER POLLUTION PREVENTION PLAN & PERMITS



Route FAU (2744)

Marked Ridge Avenue

Section 06-00241-00-PV

Project No. HPP-0703(209)

County Cook

This plan has been prepared to comply with the provisions of the NPDES Permit Number ILR10, issued by the Illinois Environmental Protection Agency for storm water discharges from Construction Site Activities.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Reid T. Wagner

August 3, 2007

Signature

Date

Project Manager

Title

1. Site Description

- a. The following is a description of the construction activity which is the subject of this plan (use additional pages, as necessary):

This project is formally known as the Ridge Avenue STP Improvement. The improvement includes Ridge Avenue from Howard Street to Lyons Street located in the City of Evanston, Cook County, Illinois. The total length of improvement is 2.08 miles.

The work to be performed as a part of this project will consist of the following: Curb & Gutter Removal and Replacement; Pavement Removal; Earth Excavation; Construction of a Relief Storm Sewer; Construction of P.C.C. Curb & Gutter; Construction of P.C.C. Pavement Patches and P.C.C. Base Course Widening, Construction of Bituminous Binder and Surface Course; P.C.C. Sidewalks; Pavement Markings; Signing; Landscaping and all other incidental work necessary to complete the project as shown on the plans.

- b. The following is a description of the intended sequence of major activities which will disturb soils for major portions of the construction site, such as grubbing, excavation and grading (use additional pages, as necessary):

- 1. Earth Excavation
- 2. Pavement Patching
- 3. Relief Storm Sewer Installation
- 4. Curb & Gutter Removal and Replacement
- 5. Parkway Restoration / Parkway Grading
- 6. Landscaping

- c. The total area of the construction site is estimated to be 20 acres.
The total area of the site that it is estimated to be disturbed by excavation, grading or other activities is 5 acres.
- d. The estimated runoff coefficients of the various areas of the site after construction activities are completed are contained in the project drainage study which is hereby incorporated by reference in this plan. Information describing the soils at the site is contained either in the Soils Report for the project, which is hereby incorporated by reference, or in an attachment to this plan.
- e. The design/project report and plan documents, hereby incorporated by reference, contain site map(s) indicating drainage patterns and approximate slopes anticipated after major grading activities, areas of major soil disturbance, the location of major structural and nonstructural 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 a surface water.
- f. The names of receiving water(s) and area extent of wetland acreage at the site are in the design/project report and are incorporated by reference as a part of this plan.

2. Controls

This section of the plan addresses the various controls that will be implemented for each of the major construction activities described in 1.b. above. For each measure discussed, the contractor that will be responsible for its implementation is indicated. Each such contractor has signed the required certification on forms which are attached to, and a part of, this plan:

a. Erosion and Sediment Controls

- (i) Stabilization 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: temporary seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided in 2.a.(i).(A) and 2.b., 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 14 days after the construction activity in that portion of the site has temporarily or permanently ceased on all disturbed portions of the site where construction activity will not occur for a period of 21 or more calendar days.
 - (A) where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable thereafter.

Description of Stabilization Practices (use additional pages, as necessary):

- Temporary Tree Protection – Where applicable, Tree Trunk Protection, Tree Root Pruning, and Tree Pruning (1 to 10 Inch Diameter) in accordance with Section 201 of the IDOT "Standard Specifications" for Road and Bridge Construction" shall be used to preserve existing trees.
- Permanent Stabilization – All areas disturbed during construction shall be stabilized with permanent seeding/sodding immediately following finished grading.
- Temporary Seeding – Temporary Seeding shall be used to protect bare earth during winter months.

- (ii) **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 silt fences, earth dikes, drainage swales, sediment traps, check dams, 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.

Description of Structural Practices (use additional pages, as necessary):

- **Inlet Filters** – Inlet Filters will be placed at storm sewer structures per the Erosion Control Plans to reduce sediment infiltration and downstream erosion.
- **Perimeter Erosion Barrier / Silt Fences** – Perimeter Erosion Barrier fence will be provided along the project construction limits to minimize potential erosion sediment runoff.

b. 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.

- (i) Such practices may include: 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 Section 10-300 (Design Considerations) in Chapter 10 (Erosion and Sedimentation Control) of the Illinois Department of Transportation Drainage Manual. If practices other than those discussed in Section 10-300 are selected for implementation or if practices are applied to situations different from those covered in Section 10-300, the technical basis for such decisions will be explained below.**
- (ii) 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 (use additional pages, as necessary):

c. Other Controls

- (i) **Waste Disposal.** No solid materials, including building materials, shall be discharged into Waters of the State, except as authorized by a Section 404 permit.
- (ii) The provisions of this plan shall ensure and demonstrate compliance with applicable State and/or local waste disposal, sanitary sewer or septic system regulations.

d. Approved State or Local Plans

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, 1995. 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 or site permits or storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI to be authorized to discharge under permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

- See Erosion and Sediment Control Plans

3. Maintenance

The following is a description of procedures that will be used to maintain, in good and effective operating conditions, vegetation, erosion and sediment control measures and other protective measures identified in this plan (use additional pages, as necessary):

Construction equipment shall be stored and fueled only at designated locations. All necessary measures shall be taken to contain any fuel or pollution runoff in compliance with environmental law and EPA Water Quality Regulations. Leaking equipment or supplies shall be immediately repaired or removed from the site. The construction field engineer on a bi-weekly basis shall inspect the project to determine that erosion control efforts are in place and effective and if other control is necessary. Sediment collected during the construction by various temporary erosion systems shall be disposed on the site on a regular basis as directed by the Engineer.

All erosion control measures will be checked weekly and after each significant rainfall (0.5 inches or greater in a 24 hour period).

All maintenance of the erosion control systems will be the responsibility of the contractor. All locations where vehicles enter and exit the construction site and all other areas subject to erosion should also be inspected periodically. Inspection of these areas shall be made at least once every seven days and within 24 hours of the end of each 0.5 inch or greater rainfall, or an equivalent snowfall.

4. Inspections

Qualified personnel shall inspect disturbed areas of the construction site which have not been finally stabilized, structural control measures, and locations where vehicles enter or exit the site. Such inspections shall be conducted at least once every seven (7) calendar days and within 24 hours of the end of a storm that is 0.5 inches or greater or equivalent snowfall.

- a. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off site sediment tracking.
- b. Based on the results of the inspection, the description of potential pollutant sources identified in section 1 above and pollution prevention measures identified in section 2 above shall be revised as appropriate as soon as practicable after such inspection. Any changes to this plan resulting from the required inspections shall be implemented within 7 calendar days following the inspection.

- c. A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of this storm water pollution prevention plan, and actions taken in accordance with section 4.b. shall be made and retained as part of the plan for at least three (3) years after the date of the inspection. The report shall be signed in accordance with Part VI. G of the general permit.
- d. 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 or Resident Technician shall complete and file an "Incidence of Noncompliance" (ION) report for the identified violation. The Resident Engineer or Resident Technician shall use forms provided by the Illinois Environmental Protection Agency and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of noncompliance shall be signed by a responsible authority in accordance with Part VI. G of the general permit.

The report of noncompliance 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

5. Non-Storm Water Discharges

Except for flows from fire fighting activities, sources of non-storm water that is combined with storm water discharges associated with the industrial activity addressed in this plan must be described below. Appropriate pollution prevention measures, as described below, will be implemented for the non-storm water component(s) of the discharge. (Use additional pages as necessary to describe non-storm water discharges and applicable

- The cutting of joints in P.C.C. pavements will result in slurry. This slurry will be contained on the pavement and cleaned up and disposed of per the Engineer's directions.
- Redi-mix concrete trucks should wash out only in areas designated for said purpose by the Engineer. The wash out area should be surrounded by silt fence. After all P.C.C. items have been constructed, the dried concrete material will be cleaned up and disposed of per the Engineer.
- On site maintenance of equipment must be performed in accordance with environmental law, such as no dumping of old engine oil and other fluids on site.



This certification statement is a part of the Storm Water Pollution Prevention Plan for the project described below, in accordance with NPDES Permit No. ILR10, issued by the Illinois Environmental Protection Agency on May 14, 1998.

Project Information:

Route	<u>FAU (2744)</u>	Marked	<u>Ridge Avenue</u>
Section	<u>06-00241-00-PV</u>	Project No.	<u>HPP-0703(209)</u>
County	<u>Cook</u>		

I certify under penalty of law that I understand the terms of the general National Pollutant Discharge Elimination System (NPDES) permit (ILR 10) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

_____	_____
Signature	Date

Title

Name of Firm

Street Address

_____	_____
City	State

Zip Code

Telephone Number



1. a. Phase I & II NPDES Storm Water Permit Requirements (Applicable to all projects involving soil disturbance of 1 acre (0.4 hectares) or more.

Will the project involve soil disturbance of 1 acre (0.4 hectares) or more?

- Yes The project must comply with the Phase II NPDES Storm Water Permit Requirements.
- No

2. Identify, by station, the known location of bridges and culverts. Indicate the anticipated size of each and the nature of the soil disturbance activity(ies) that each will involve (e.g., slope grading, channel shaping, watercourse
- Not Applicable

3. Indicate the type and identify the location, by station, of any resources requiring special consideration for protection from sedimentation, such as wetlands, endangered and threatened species locations, or other resources involving special commitments for protection.
- Not Applicable

4. When possible, graphically indicate on a map or plan drawing the drainage areas, and soil types (via. County Soils Maps) in locations of the project to be affected by clearing and grubbing, excavation or placement of embankment. Also describe or indicate any locations in which known soil disturbance by others (e.g., for agricultural crop production) could introduce additional sediment within the project limits. Highly erodible soils will affect the complexity needed in the ESC plan.
- See Erosion Control Plan and Cross Section sheets for graphical illustrations.

5. When possible, graphically indicate on a map or plan drawing the locations in which routine practices such as ditch checks and perimeter silt fence will be used and indicate the type and location of other, non-routine practices recommended to use.
- See Erosion Control Plan for locations.

*Note: This form is NOT to take the place of the SWPPP, but is to provide information to go into the project report for the benefit of the R.E.



Date of Inspection: _____ County: _____
Name of Inspector: _____ Section: _____
Type of Inspection: Weekly []
>0.5" Precip. []
Precip. Amount: _____ Route: _____
District: _____
Contract No: _____
Contractor: _____ Job No. _____
Subs: _____ Project: _____
NPDES Permit No: _____

Erosion Control Deficiency Deduct \$ _____ Ready for Final Cover: _____ acre
Total Disturbed Area: _____ acre Final Cover Established: _____ acre

Instructions to the Inspector: Inspections are to take place every seven (7) days and within 24 hours of a rainfall event of a rainfall event of 0.5 inches or more. Inspections are to be conducted every week of the project duration including the winter months until 70% viable vegetative cover is achieved. The primary objective for establishing and maintaining temporary erosion control measures is to ensure that sediment is retained within the project limits. If sediment or other pollutants of concern are released from the project site, an Incidence of Non-Compliance (ION) must be submitted to the Illinois Environmental Protection Agency immediately. Note maintenance of and changes to the in-place ESC measures on the project SWPPP. If the answer to any of the following is "No," the contractor is hereby ordered to correct the deficiency.

SITE CONDITIONS ON DAY OF INSPECTION

Erosion and Sediment Control:

Slopes: Do all slopes where soil disturbing activities have taken place and not been permanently restored, have adequate temporary seeding or protection? [] Yes [] No
Ditches: Are all ditches existing, temporary, and/or proposed) clear of sediment and/or debris. [] Yes [] No
Perimeter Erosion Barrier: Are all perimeter erosion barriers in good working order? [] Yes [] No
Has perimeter barrier no longer needed been removed and the area restored? [] Yes [] No
Temporary Ditch Checks: Are all temporary ditch checks in good working order? [] Yes [] No
Are the current ditch checks adequate to control erosion? [] Yes [] No
Inlet Filters: Are ALL inlet filters in good working order and less than 25% full? [] Yes [] No
Outfalls: Are all outfalls free of any signs of sediment discharge? [] Yes [] No
Areas of Interest - Wetland/Prairie/Tree Preservation: Has the contractor remained clear of all designated "no entry" areas? [] Yes [] No
Are all "no intrusion" areas adequately marked to prevent accidental entry? [] Yes [] No
Stock Piles: Are all stockpiles properly maintained to prevent runoff and protected to minimize spread in case of erosion? [] Yes [] No
Borrow/Waste Sites: Are all borrow and waste locations, including those which are offsite, in compliance with all NPDES rules and regulations? [] Yes [] No

General Site Maintenance Required of the Permit

Concrete Washout Areas: Are concrete washout areas adequately maintained? Yes No
 Has all washout occurred only at designated washout locations? Yes No
 (The contractor may want to consider designating additional area(s) for use.)

Staging/Storage Areas: Are all staging/storage facilities free of litter, leaking containers, leaking equipment, spills, etc? Yes No

Vehicle Tracking: Is the site free from mud, sediment and debris from the vehicles entering/leaving off road areas throughout the site? Yes No

Fuel/Chemical Storage Locations: Are all designated fueling locations free of evidence of leaks and or spills? Yes No

Update SWPPP: Have all changes to the projects SWPPP been noted on the graphic site plan? Yes No

Specific Instructions Related to "No" Answers From Above:

Station or Station to Station	Practice	Comments/Actions Required	Time for Repair

Other Comments:

Additional Pages (Attached As Needed)

- Outfalls / Receiving Waters
 - Drainage Structure/Ditch Check Locations
 - Additional Instructions to Contractor
- Other: _____

Repairs and stabilization to be completed within 24 hours of this report (or as indicated above) or the DAILY Erosion and Sediment Control Deficiency Deduction will be assessed for each noted deficiency until the required action is completed.

Inspector's Signature _____ Date: _____
 Contractor's Signature _____ Date: _____

Original: Project File
 cc: Contractor

Ridge Avenue STP Improvement
Section No. 06-00241-00-PV
Job No.: C-91-145-07
Project No. HPP-0703(209)
Contract No.: 83968

ENVIRONMENTAL SURVEY REQUEST FORMS
TOPSOIL AND/OR BORROW EXCAVATION



Borrow/Waste/Use Area Coordinator
(217) 782-4771

A. Submittal Date: _____ Requesting Agency: DOH DOA Local Other: _____
Previous survey request(s) submitted for this project? Yes No Addendum # _____
Date(s) of prior submittal(s): _____

B. Route: _____ Marked: _____ County(ies): _____ District: _____
Section: _____ Project No.: _____
Job No.: P- _____ C- _____ Contract No.: _____

C. Borrow/ Waste/ Use Area Location (Check each which applies.):

D. 0.00 m³ (_____ yds³) borrow from this area. Borrow/Waste/Use Area Size: 0.00 ha. (_____ acres)
Current Land Use (Check each which applies.): Timber Row Crops Pasture Other (Describe): _____

E. Name of Contractor: _____
Contact Person: _____ Phone: _____
Address: _____
Name of District/Local Resident Engineer: _____ Phone: _____

F. Has Borrow Area been approved by Bureau of Materials? (Check one.) Yes No Not Applicable
Date of Approval: _____

G. This request is number _____ of _____ requests for this project.

(LEAVE THIS SPACE BLANK)

ATTACHMENTS REQUIRED



To whom it may concern:

I, said property owner, _____
(Name and Address of Property Owner)

do hereby grant to the State Historic Preservation Officer and the Illinois Transportation Archaeological Research Program (ITARP), or their agents, permission to survey and/or test excavate said property, located:

(Indicate location of property by county, range, township, section and sub-section, as necessary.)

(Signature of Property Owner)

(Name and Address of Property Owner)

I, _____ owner of said property, do hereby grant permission for the State Historic Preservation Officer and the Illinois Transportation Archaeological Research Program (ITARP), or their agents, acting on behalf of the Illinois Department Of Transportation, to remove artifacts found on said property and agree that all artifacts shall remain in public ownership, in the custody of the State Historic Preservation Officer and the University of Illinois, or their agents.

(Signature of Property Owner)

(Name and Address of Property Owner)

Ridge Avenue STP Improvement
Section No. 06-00241-00-PV
Job No.: C-91-145-07
Project No. HPP-0703(209)
Contract No.: 83968

GEOTECHNICAL/SOILS REPORTS

MIDLAND STANDARD ENGINEERING & TESTING, INC.

DATED JANUARY 17, 2007

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE, UNIT 6
EAST DUNDEE, IL 60118
(847) 844-1895 fax (847) 844-3875

January 17, 2007

Mr. Jon Vana, P.E.
Civiltech Engineering, Inc.
450 E. Devon Avenue
Suite 300
Itasca, Illinois 60143

Re: Ridge Road Improvements— Howard Street to Lyons Street.
Evanston, Illinois
MSET File No. 76322

Dear Mr. Vana:

Midland Standard Engineering & Testing, Inc. has completed pavement cores and sanitary sewer borings requested for the referenced project. This report was prepared for your use in preparing the project design plans provided.

Purpose

The purpose of this exploration program was to determine the existing pavement materials and soil types of which comprise the subgrade for the Ridge Road alignment. With this information, the Design Engineer will prepare rehabilitation plans for the project. Additionally, within the project, a new sanitary sewer alignment is planned. Soil borings made along the alignment will provide subsurface soil and groundwater condition information to use in preparing design and construction recommendations.

Scope

The scope of these explorations include review of available project information, subsurface exploration, field and laboratory testing, analysis of the data obtained, formulation of our recommendations and preparation of this report.

General

The procedures for this exploration were conducted in general accordance with the appropriate Illinois Department of Transportation Standards. The borings were supervised at all times by a geologist from the office of Midland Standard Engineering & Testing, Inc. The soil specimens obtained were transported to our laboratory for testing and analysis. Our project engineer has directed all phases of this investigation.

Pavement Cores

The pavement materials were determined using portable rotary drill equipped with a diamond tipped core barrel. A four (4) inch diameter barrel was advanced through the pavement materials. The resulting core was examined and measured to determine the pavement types and thicknesses encountered.

Soil Drilling and Sampling Procedures

The soil borings were performed with a drilling rig equipped with a rotary head. Continuous flight augers were used to advance the holes. Representative samples of the upper profile soils were obtained by the use of split-spoon sampling procedures in accordance with the ASTM procedure D 1586. All borings were backfilled with soil cuttings following the drilling operations. Borings and probes were backfilled upon completion. Pavements materials were patched at the boring and core locations.

Field Tests and Measurements

During the split-spoon sampling procedures, a standard penetration test was performed in accordance with current A.S.T.M. D-1586 Procedures. At sampling intervals, advancement of the boring was stopped and all loose material removed from the bore hole. The sampler was then lowered into the hole and seated in undisturbed soil by pushing or tapping, taking suitable precautions that the rods were reasonably tight. The sampling spoon was then advanced by driving using a drop hammer. During the sampling procedure, the standard penetration value (N) of the soil was determined. The standard penetration value (N) is defined as the number of blows of a one hundred-forty pound (140 lb.) hammer required to advance the spoon sampler one foot (12") into the soil.

The results of the standard penetration tests indicated the relative density and comparative consistency of the soils, and thereby provide a basis for estimating the relative strength and compressibility of the soil profile components. The results of standard penetration tests can be found on the boring logs included in the Appendix.

Water Level Measurements - Water level observations were made during and after the boring operations and are noted on the boring logs presented herewith. In relatively pervious soils, such as sandy soils, the indicated elevations are considered reliable groundwater levels. In relatively impervious soils, the accurate determination of the groundwater elevation may not be possible, even after several days of observation. Seasonal variations, temperature and recent rainfall conditions may influence the levels of the groundwater table, and volumes of water will depend on the permeability of the soils.

Surface Elevations

The ground surface elevation at the boring locations were determined by information provided on the project plan & profile sheets provided. The City of Chicago Datum C.C.D.), referenced to the Lake Michigan water level was used for the project.

Laboratory Testing

A supplemental testing program was conducted to ascertain additional pertinent engineering characteristics of the subgrade materials. The soils laboratory work was performed in accordance with applicable ASTM and IDOT standards. The laboratory testing program included supplemental visual classification and moisture contents were performed on each sample obtained. Selected samples were subjected to classification testing including grain size analysis and atterberg limit determination. The predominant soil was tested to establish a moisture-density relationship and bearing ratio for pavement design.

ROADWAY PAVEMENT REHABILITATION

Existing Pavement Materials

A total of twenty (20) pavement cores were made to determine the pavement and base course thicknesses along the alignment. Shallow depth subgrade borings were made at the cores locations. Results of the exploration are provided on the Pavement Core Measurement Logs (C-1 through C-20) found in the Appendix to this report. The cores were generally spaced at 500' to 600' intervals along Ridge Road between Howard Street (Sta. 114+50) and near Emerson Street (Sta. 224+00) (approx. 2.04 miles of roadway)

The general pavement section includes Bituminous Concrete over P.C. Concrete. The bituminous concrete overlay ranged in thickness from 1-1/4" to 3-7/8" at the core locations. Core C-20, at the north end of the project, located under a viaduct had no bituminous concrete overlay. P.C. Concrete was encountered at each location ranging in thickness from 7-1/8" to 12-1/4" but generally in the 8"± range.

Roadway Subgrade Materials

Soils encountered beneath the pavement along the alignment was granular in nature, being a brown SAND (c-f), A-2 to A-3. The materials were found to be medium dense in consistency with Standard Penetration, N values of 8 to 19 blows per foot. The materials were dry at the time of the field explorations with moisture contents of 5% to 13%. Subgrade probes were not made at locations C-1, C-3, C-17 and C-20 due to the proximity of underground utilities or overhead clearance. Exceptions to this general subgrade description were noted at cores C-8 and C-19 where crushed stone, A-1-a was encountered as a granular base or possible trench backfill.

Discussion

Analysis of the existing pavement section may use a bearing ratio of 7.0, representative of the medium dense A-2 subgrade materials.

SANITARY SEWER CONSTRUCTION

Sanitary Sewer Alignment

Along the alignment between Reba Place and Greenleaf Street and from Grove to Church Street, construction of a new sanitary sewer line is planned, generally in the northbound lanes of Ridge Road. Soil borings SB-1 through SB-15 were made along the proposed alignments. The borings were extended to a nominal depth (5 ft.) below the proposed invert elevation. Results of the exploration and testing are presented on the appended Records of Subsurface Exploration.

Subsurface Conditions

Brown SAND, A-1-b to A-3 was encountered along the sewer alignment, to the extent of the borings. The borings were extended to a depth of 10' to 25' below the existing grade. The materials were generally found to be slightly dense to dense in consistency with Standard Penetration, N values of 6 to 43 blows per foot.

At borings SB -5, 6 and 7 groundwater was encountered at a depth of 16.5' to 17.5' below the ground surface. Upon completion, SB-5 was dry, and groundwater was measured at a depth of 16.6' to 17.3' at borings SB-6 and 7. At borings SB-10 to SB-15, groundwater was encountered at a depth of 5.5' to 12.5' during drilling and 6.5' to 12.0' upon completion. Boring SB-15 was dry upon completion. The remaining borings were dry during drilling and upon completion.

Where encountered, the groundwater readings corresponded to elevation 20.30 to 21.60 at the time of the field operations (December 2006).

Construction Recommendations

Excavations for the sewer installation will encounter granular materials, slightly to non cohesive in nature. Support of the excavation sidewalls will be required to control sloughing over even short periods of time. Shoring and bracing of open cuts, trench boxes and possibly sheeting should be anticipated for support of the excavation and adjacent underground utilities,

At the time of our exploration, groundwater was encountered near or above the proposed invert elevation at the following borings:

Boring No.	Location	Invert Elevation	Groundwater Elevation (12/06)
SB-7	Sta. 174+30	21.00	21.60
SB-11	Sta. 209.57	15.50	20.90
SB-12	Sta. 213+20	18.50	20.90
SB-13	Sta. 219+20	20.50	20.30

A system of sumps and pumps may be required to control the groundwater during construction. Groundwater control should be anticipated during construction to control the water to a depth of 2.0'± below the excavation depth. The local (O'Hare) rainfall records in the month prior to the drilling operations indicate the YTD rainfall at 5.62" above normal. Seasonal fluctuations in the groundwater level should be anticipated in the free draining profile soils.

Trench Backfill

Excavated materials are expected to consist of SAND, SW to SP (AASHTO A-1-b to A-3). The silt content of the materials (2 to 8%) and gradation makes most of the materials suited for use as Granular Trench Backfill in many applications. The material and underlying subsurface profile are also suited for compaction of the trench backfill material by jetting, if performed properly.

Careful consideration must be given when preparing the backfilling specification. Under roadway areas it is best to specify the use of a well graded granular backfill material such as IDOT CA06. The backfill should be placed in lifts not to exceed six (56) inches, loose measure and mechanically compacted to a minimum density of 95% of the theoretical maximum dry density, as defined by ASTM D 1557, Modified Method. Use of an open graded backfill stone to reduce the required compaction effort, such as CA-11 or CA-07 should not be considered for this project.

The option of jetting may be considered for approval at the request of the Contractor. The Contractor should submit a detailed plan for approval and possible cost savings to the project. At a minimum the procedures should meet the requirements of 'Standard Specifications for Water and Sewer Main Construction in Illinois' may 1995, 5th Edition, Section 20-2.21B Final Backfill, Method 3.

Sewer Support

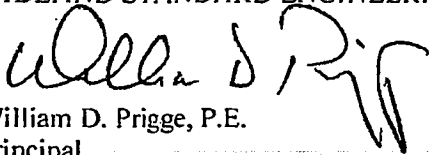
The structures and pipe line may be support on the undisturbed natural profile soils on the approved stone bedding details as outlined in Section 20-2.20 of the above referenced Standard Specifications.

Unstable materials encountered during construction should be dewatered if wet and/or undercut abd replaced with a suitable free draining aggregate to form a stable base for structure or pipe support.

Closure

Thank you for the opportunity to be of continuing service. Please do not hesitate to contact us with any questions or if you require additional information.

Very truly yours,
MIDLAND STANDARD ENGINEERING & TESTING, INC.



William D. Prigge, P.E.
Principal

WDP/mlw
Appendix

- Pavement Core Measurement Logs (C-1 through C-20)
- Records of Subsurface Exploration (SB-1 through SB-15)
- Summary of Sanitary Sewer Design Information, Table 1
- Classification Test Data
- General Notes

APPENDIX

**Pavement Core Measurement Logs
(C-1 through C-20)**

**Records of Subsurface Exploration
(SB-1 through B-15)**

**Summary of Sanitary Sewer Design Information
Table 1**

Classification Test data

General Notes

PAVEMENT CORE MEASUREMENT LOG

MSET File Number 76322

Ridge Road

Howard Street to Emerson Street

Core No. C-1

Location

Material

Bituminous Surface
Bituminous Binder
Concrete
Subgrade

Sta. 119+80

47' S of Brummel St, NB, Right Lane

Depth(in.)

Thickness(in.)

Remarks/Condition

0 to 1- 3/4 1- 3/4
1- 3/4 to 5 3- 1/4
5 to 13- 1/4 8- 1/4

fair, not consolidated
not drilled, water service

Core No. C-2

Location

Material

Bituminous Surface
Bituminous Binder
Concrete
Subgrade

Sta. 125+60

50' N of Harvard Trail, SB, Right Lane

Depth(in.)

Thickness(in.)

Remarks/Condition

0 to 1- 5/8 1- 5/8
1- 5/8 to 2- 7/8 1- 1/4
2- 7/8 to 10- 3/4 7- 7/8
10- 3/4 to 42

good
Brown-grey SAND (f-c), A-2
N=11 bpf, Mc=9%

Core No. C-3

Location

Material

Bituminous Surface
Bituminous Binder
Concrete
Subgrade

Sta. 132+75

48' N of Hull Trail, NB, Left Lane

Depth(in.)

Thickness(in.)

Remarks/Condition

0 to 1- 1/8 1- 1/8
1- 1/8 to 3- 1/2 2- 3/8
3- 1/2 to 11- 3/4 8- 1/4

good
not drilled, fiber optic line

Core No. C-4

Location

Material

Bituminous Surface
Bituminous Binder
Concrete
Subgrade

Sta. 137+75

155' N of Austin Street, SB, Right Lane

Depth(in.)

Thickness(in.)

Remarks/Condition

0 to 1- 1/8 1- 1/8
1- 1/8 to 2- 7/8 1- 3/4
2- 7/8 to 11- 1/8 8- 1/4
11- 1/8 to 42

good
Brown SAND (f-c), A-2
N=14 bpf, Mc=6%

Core No. C-5

Location

Material

Bituminous Surface
Bituminous Binder
Concrete
Subgrade

Sta. 143+75

40' S of South Boulevard, NB, Right Lane

Depth(in.)

Thickness(in.)

Remarks/Condition

0 to 1- 1/8 1- 1/8
1- 1/8 to 3- 3/8 2- 1/4
3- 3/8 to 10- 1/2 7- 1/8
10- 1/2 to 42

fair, top degraded
Brown SAND (f-c), A-2
N=16 bpf, Mc=6%

Core No. C-6

Location

Material

Bituminous Surface
Bituminous Binder
Concrete
Subgrade

Sta. 149+75

112' N of Seward Street, SB, Left Lane

Depth(in.)

Thickness(in.)

Remarks/Condition

0 to 1- 1/4 1- 1/4
1- 1/4 to 3- 5/8 2- 3/8
3- 5/8 to 12- 3/8 8- 3/4
13- 3/8 to 42

good
Brown SAND (f-c), A-2
N=12 bpf, Mc=7%

Core No. C-7

Location

Material

Bituminous Surface
Bituminous Binder
Concrete
Subgrade

Sta. 155+75

38' N of Monroe, NB, Right Lane

Depth(in.)

Thickness(in.)

Remarks/Condition

0 to 1- 5/8 1- 5/8
1- 5/8 to 3- 7/8 2- 1/4
3- 7/8 to 11- 3/4 7- 7/8
11- 3/4 to 36

good
Brown SAND (f-c), A-2
N=13 bpf, Mc=4%
Brown SAND and Gravel, A-1

Subgrade

36 to 42

Core No. C-8

Location

Material

Bituminous Surface
Concrete
Subgrade

Sta. 161+70

102' S of Washington, SB, Right Lane

Depth(in.)

Thickness(in.)

Remarks/Condition

0 to 1- 7/8 1- 7/8
1- 7/8 to 10- 3/8 8- 1/2
10- 3/8 to 42

good, crushed aggregate
Grey Crushed Limestone,
IDOT CA06, N=6 bpf, Mc=4%

Core No. C-9

Location

Material

Bituminous Surface
Bituminous Binder
Concrete
Subgrade

Sta. 167+40

40' N of Main, NB, Left Lane

Depth(in.)

Thickness(in.)

Remarks/Condition

0 to 1- 1/2 1- 1/2
1- 1/2 to 3- 3/4 2- 1/4
3- 3/4 to 12 8- 1/4
12 to 42

good
Red-brown SAND, A-2
N=8, bpf, Mc=5%

PAVEMENT CORE MEASUREMENT LOG

<u>Ridge Road</u>			
<u>Howard Street to Emerson Street</u>			
<u>Core No. C-10</u>	Sta. 173+60		
<u>Location</u>	26' S of Lee, SB, Right Lane		
<u>Material</u>	<u>Depth(in.)</u>	<u>Thickness(in.)</u>	<u>Remarks/Condition</u>
Bituminous Surface	0 to 1- 5/8	1- 5/8	
Bituminous Binder	1- 5/8 to 3- 1/8	1- 1/2	
Concrete	3- 1/8 to 11- 1/2	8- 3/8	good
Subgrade	11- 1/2 to 42		Red-brown SAND (f-c), N=13 bpf, Mc=10%
<u>Core No. C-11</u>	Sta. 179+60		
<u>Location</u>	90' S of Greenleaf, NB, Right Lane		
<u>Material</u>	<u>Depth(in.)</u>	<u>Thickness(in.)</u>	<u>Remarks/Condition</u>
Bituminous Surface	0 to 2- 7/8	2- 7/8	
Concrete	2- 7/8 to 10- 5/8	7- 3/4	good
Subgrade	10- 5/8 to 42		Red-brown SAND (f-c), N=11 bpf, Mc=8%
<u>Core No. C-12</u>	Sta. 185+60		
<u>Location</u>	170' S of Crain Street, SB, Left Lane		
<u>Material</u>	<u>Depth(in.)</u>	<u>Thickness(in.)</u>	<u>Remarks/Condition</u>
Bituminous Surface	0 to 1- 1/4	1- 1/4	
Bituminous Binder	1- 1/4 to 3- 3/8	2- 1/8	
Concrete	3- 3/8 to 11- 7/8	8- 1/2	fair, top degraded
Subgrade	11- 7/8 to 42		Red-brown SAND (f-c), N=19 bpf, Mc=7%
<u>Core No. C-13</u>	Sta. 191+65		
<u>Location</u>	237' S of Dempster Street, NB, Right Lane		
<u>Material</u>	<u>Depth(in.)</u>	<u>Thickness(in.)</u>	<u>Remarks/Condition</u>
Bituminous Surface	0 to 1- 1/4	1- 1/4	
Concrete	2- 1/8 to 10- 3/8	8- 1/4	good
Subgrade	10- 3/8 to 42		Red-brown SAND (f-c), N=14 bpf, Mc=8%
<u>Core No. C-14</u>	Sta. 197+65		
<u>Location</u>	158' S of Greenwood Street, SB, Right Lane		
<u>Material</u>	<u>Depth(in.)</u>	<u>Thickness(in.)</u>	<u>Remarks/Condition</u>
Bituminous Surface	0 to 3	3	
Concrete	3 to 11- 5/8	8- 5/8	good
Subgrade	11- 5/8 to 42		Red-brown SAND (f-c), N=8 bpf, Mc=7%
<u>Core No. C-15</u>	Sta. 203+50		
<u>Location</u>	106' S of Lake, NB, Left Lane		
<u>Material</u>	<u>Depth(in.)</u>	<u>Thickness(in.)</u>	<u>Remarks/Condition</u>
Bituminous Surface	0 to 3- 3/4	3- 3/4	
Concrete	3- 3/4 to 11- 3/4	8	good
Subgrade	11- 3/4 to 42		Brown SAND (f-m), A-2 N= 9 bpf, Mc=10%
<u>Core No. C-16</u>	Sta. 209+60		
<u>Location</u>	25' S of Grove, SB, Right Lane		
<u>Material</u>	<u>Depth(in.)</u>	<u>Thickness(in.)</u>	<u>Remarks/Condition</u>
Bituminous Surface	0 to 2	2	
Bituminous Binder	2 to 3- 1/2	1- 1/2	
Concrete	3- 1/2 to 12- 1/4	8- 3/4	fair, top degraded
Subgrade	12- 1/4 to 42		Brown SAND (f-m), A-2 N= 12 bpf, Mc=7%
<u>Core No. C-17</u>	Sta. 205+60		
<u>Location</u>	42' N of Grove, SB, Right Lane		
<u>Material</u>	<u>Depth(in.)</u>	<u>Thickness(in.)</u>	<u>Remarks/Condition</u>
Bituminous Surface	0 to 2- 3/8	2- 3/8	
Concrete	2- 3/8 to 11- 1/4	8- 7/8	good
Subgrade			not drilled, overhead wi
<u>Core No. C-18</u>	Sta. 221+45, SB, Left Lane		
<u>Material</u>	<u>Depth(in.)</u>	<u>Thickness(in.)</u>	<u>Remarks/Condition</u>
Bituminous Surface	0 to 3- 3/8	3- 3/8	
Concrete	3- 3/8 to 12- 1/4	8- 7/8	good, reinforced-wwf
Subgrade	12- 1/4 to 42		Brown SAND (f-c), A N=13 bpf, Mc=9%

PAVEMENT CORE MEASUREMENT LOG

**Ridge Road
Howard Street to Emerson Street**

Core No. C-19

Sta. 229+10

Location

110' N of Clark, NB, Right Lane

Material

Bituminous Surface

Depth(in.)
0 to 2- 1/2

Thickness(in.)
2- 1/2

Remarks/Condition

Concrete

2- 1/2 to 14

11- 1/2

good, reinforced-wwf

Subgrade

14 to 19

5

Crushed Limestone. CA06

Subgrade

19 to 36

Olive and black SAND, A-2, N=14 bpf
Mc=11%

Subgrade

36 to 42

Olive brown SAND, A-2, Mc=8%

Core No. C-20

Location

26' South of Emerson Street, SB, Right Lane

Material

Concrete

Depth(in.)
0 to 10- 1/2

Thickness(in.)
10- 1/2

Remarks/Condition

Subgrade

good, reinforced-wwf
not drilled, under viaduct

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-1 PAGE 1 OF 1

PROJECT NAME <u>Ridge Road Improvements-Sewer Borings</u> MSET PROJECT NO. <u>76322</u> SITE LOCATION <u>Evanston, Illinois</u> <u>STA 152+80, 8' R</u>	DATE STARTED <u>12/26/06</u> DATE COMPLETED <u>12/26/06</u> LOGGED BY <u>SE</u> BORING METHOD <u>CFA</u> GW ENCOUNTERED WHILE DRILLING <u>none</u> GROUNDWATER, AT COMPLETION <u>dry</u> GROUNDWATER, AFTER <u>--</u> DAYS <u>--</u> HOLE CAVED, <u>--</u> AT <u>--</u>
--	---

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N	Qu	Qp	Wc	Remarks
37.3	SURFACE	Feet			LAB	FIELD	LAB	AASHTO
	<i>±4" Bituminous Concrete over ±10" PCC</i>							
	<i>Brown SAND (f-c), little Gravel, medium dense, (SP)</i>		SS-1	13	--	--	6	A-3
		5	SS-2	17	--	--	4	A-3
	<i>slightly dense</i>		SS-3	7	--	--	6	A-3
	<i>little to some Sand, medium dense, (SP-GP)</i>	10	SS-4	13	--	--	7	A-3
	<i>End of Boring @ 10.0'</i>							
	<i>Notes:</i> <i>..... Approximate Sanitary Sewer Invert</i>							

SYMBOLS

N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
 LL: LIQUID LIMIT, %
 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION

SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
 BORING METHOD
 HSA- HOLLOW STEM AUGER
 CFA- CONTINUOUS FLIGHT AUGERS
 C- CASING
 MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-2 PAGE 1 OF 1

PROJECT NAME <u>Ridge Road Improvements-Sewer Borings</u> MSET PROJECT NO. <u>76322</u> SITE LOCATION <u>Evanston, Illinois</u> <u>STA 156+60, 12' R</u>	DATE STARTED <u>12/26/06</u> DATE COMPLETED <u>12/26/06</u> LOGGED BY <u>SE</u> BORING METHOD <u>CFA</u> GW ENCOUNTERED WHILE DRILLING <u>none</u> GROUNDWATER, AT COMPLETION <u>dry</u> GROUNDWATER, AFTER <u>--</u> DAYS <u>--</u> HOLE CAVED, <u>--</u> AT <u>--</u>
---	---

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N	Qu	Qp	Wc	Remarks
37.5	SURFACE	Feet			LAB	FIELD	LAB	AASHTO
	$\pm 3-1/2"$ Bituminous Concrete over $\pm 11"$ PCC							
	Red-Brown SAND (f-c), trace to some Gravel, medium dense, (SW)		SS-1	11	--	--	5	A-1-b
		5	SS-2	13	--	--	6	A-1-b
	Brown SAND (m-f), medium dense, SP		SS-3	19	--	--	5	A-1-b
		10	SS-4	18	--	--	4	A-3
			SS-5	16	--	--	2	A-3
	End of Boring @ 12.5'	15						
	Notes: Approximate Sanitary Sewer Invert							

SYMBOLS

N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
 LL: LIQUID LIMIT, %
 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION

SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
 BORING METHOD
 HSA- HOLLOW STEM AUGER
 CFA- CONTINUOUS FLIGHT AUGERS
 C- CASING
 MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-3 PAGE 1 OF 1

PROJECT NAME <u>Ridge Road Improvements-Sewer Borings</u> MSET PROJECT NO. <u>76322</u> SITE LOCATION <u>Evanston, Illinois</u> <u>STA 159+90, 14' R</u>	DATE STARTED <u>12/26/06</u> DATE COMPLETED <u>12/26/06</u> LOGGED BY <u>SE</u> BORING METHOD <u>CFA</u> GW ENCOUNTERED WHILE DRILLING <u>none</u> GROUNDWATER, AT COMPLETION <u>dry</u> GROUNDWATER, AFTER <u>--</u> DAYS <u>--</u> HOLE CAVED, <u>--</u> AT <u>--</u>
---	---

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N	Qu	Qp	Wc	Remarks
37.5	SURFACE	Feet			LAB	FIELD	LAB.	AASHTO
	$\pm 2\text{-}1/2"$ Bituminous Concrete over $\pm 10\text{-}1/2"$ PCC							
	Red-Brown SAND (f-c), trace Gravel, medium dense to slightly dense, (SP)		SS-1	11	--	--	5	A-3
		5	SS-2	6	--	--	6	A-3
			SS-3	11	--	--	7	A-3
		10	SS-4	9	--	--	7	A-3
			SS-5	21	--	--	6	A-3
		15	SS-6	24	--	--	12	A-3
	<i>'End of Boring @ 15.0'</i>							
	Notes: Approximate Sanitary Sewer Invert							

SYMBOLS

N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
 LL: LIQUID LIMIT, %
 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION

SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
 BORING METHOD
 HSA- HOLLOW STEM AUGER
 CFA- CONTINUOUS FLIGHT AUGERS
 C- CASING
 MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-4 PAGE 1 OF 1

PROJECT NAME <u>Ridge Road Improvements-Sewer Borings</u> MSET PROJECT NO. <u>76322</u> SITE LOCATION <u>Evanston, Illinois</u> <u>STA 163+90, 13' R</u>	DATE STARTED <u>12/26/06</u> DATE COMPLETED <u>12/26/06</u> LOGGED BY <u>SE</u> BORING METHOD <u>CFA</u> GW ENCOUNTERED WHILE DRILLING <u>none</u> GROUNDWATER, AT COMPLETION <u>dry</u> GROUNDWATER, AFTER <u>--</u> DAYS <u>--</u> HOLE CAVED, <u>--</u> AT <u>--</u>
---	---

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N	Qu	Qp	Wc	Remarks
37.5	SURFACE	Feet			LAB	FIELD	LAB	AASHTO
	$\pm 3\text{-}1/2"$ Bituminous Concrete over $\pm 8\text{-}1/2"$ PCC							
	Red-Brown SAND (f-c), trace Gravel, slightly dense, (SP)		SS-1	9	--	--	5	A-3
	to Brown	5	SS-2	8	--	--	6	A-3
			SS-3	15	--	--	5	A-3
	Sand (f)	10	SS-4	16	--	--	5	A-3
			SS-5	21	--	--	6	A-3
	Cobble @ 14.5'	15	SS-6	33	--	--	4	A-3
	End of Boring @ 15.0'							
	Notes: Approximate Sanitary Sewer Invert							

SYMBOLS

N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
 LL: LIQUID LIMIT, %
 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION

SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
BORING METHOD
 HSA- HOLLOW STEM AUGER
 CFA- CONTINUOUS FLIGHT AUGERS
 C- CASING
 MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-5 PAGE 1 OF 1

PROJECT NAME <u>Ridge Road Improvements-Sewer Borings</u> MSET PROJECT NO. <u>76322</u> SITE LOCATION <u>Evanston, Illinois</u> <u>STA 167+60</u>	DATE STARTED <u>12/26/06</u> DATE COMPLETED <u>12/26/06</u> LOGGED BY <u>SE</u> BORING METHOD <u>CFA</u> GW ENCOUNTERED WHILE DRILLING <u>±16.5'</u> GROUNDWATER, AT COMPLETION <u>dry</u> GROUNDWATER, AFTER <u>--</u> DAYS <u>--</u> HOLE CAVED, <u>--</u> AT <u>--</u>
--	---

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N	Qu	Qp	Wc	Remarks
37.5	SURFACE	Feet			LAB	FIELD	LAB	AASHTO
	<i>±3" Bituminous Concrete over ±8-1/2' PCC</i>							
	<i>Red-Brown SAND (f-c) and GRAVEL, medium dense, (SP)</i>	5	SS-1	18	--	--	6	A-1-b
			SS-2	8	--	--	5	A-1-b
	<i>Red-Brown SAND, trace Silt, medium dense, (SP)</i>		SS-3	13	--	--	4	A-3
		10	SS-4	15	--	--	6	A-3
			SS-5	13	--	--	5	A-3
	<i>Brown SAND (f-c) and GRAVEL, dense, (SW-GW)</i>	15	SS-6	43	--	--	4	A-1-b
	<i>very moist</i>		SS-7	18	--	--	22	A-1-b
	<i>End of Boring @ 17.5'</i>							
	<i>Notes:</i>	20						
	<i>..... Approximate Sanitary Sewer Invert</i>							

SYMBOLS

N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
 LL: LIQUID LIMIT, %
 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION

SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
 BORING METHOD
 HSA- HOLLOW STEM AUGER
 CFA- CONTINUOUS FLIGHT AUGERS
 C- CASING
 MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-6 PAGE 1 OF 1

PROJECT NAME <u>Ridge Road Improvements-Sewer Borings</u> MSET PROJECT NO. <u>76322</u> SITE LOCATION <u>Evanston, Illinois</u> <u>STA 171+35, 13'R</u>	DATE STARTED <u>12/26/06</u> DATE COMPLETED <u>12/26/06</u> LOGGED BY <u>SE</u> BORING METHOD <u>CFA</u> GW ENCOUNTERED WHILE DRILLING <u>17.5'</u> GROUNDWATER, AT COMPLETION <u>17.3'</u> GROUNDWATER, AFTER <u>--</u> DAYS <u>--</u> HOLE CAVED, <u>--</u> AT <u>--</u>
--	--

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N	Qu	Qp	Wc	Remarks
38.1	SURFACE	Feet			LAB	FIELD	LAB	AASHTO
	±4" AC over 8" PCC							
	Red-Brown SAND (f-c) and GRAVEL, medium dense (SW)		SS-1	12	--	--	9	A-3
		5	SS-2	12	--	--	5	A-3
	Brown SAND (f-m), trace Gravel, medium dense (SP)		SS-3	21	--	--	5	A-3
		10	SS-4	14	--	--	5	A-3
			SS-5	13	--	--	5	A-3
	Brown SAND (f-c) and GRAVEL, medium dense, (SP-GP)		SS-6	21	--	--	6	A-1-b
		15						
	wet @ 17.5'		SS-7	18	--	--	15	A-1-b
		20	SS-8	15	--	--	25	A-1-b
	End of Boring @ 20.0'							

SYMBOLS.

N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
 LL: LIQUID LIMIT, %
 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION

SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
BORING METHOD
 HSA- HOLLOW STEM AUGER
 CFA- CONTINUOUS FLIGHT AUGERS
 C- CASING
 MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-7 PAGE 1 OF 2

PROJECT NAME <u>Ridge Road Improvements-Sewer Borings</u>	DATE STARTED <u>12/26/06</u>
MSET PROJECT NO. <u>76322</u>	DATE COMPLETED <u>12/26/06</u>
SITE LOCATION <u>Evanston, Illinois</u>	LOGGED BY <u>SE</u> BORING METHOD <u>CFA</u>
<u>STA 174+30, 13' R</u>	GW ENCOUNTERED WHILE DRILLING <u>17.0'</u>
	GROUNDWATER, AT COMPLETION <u>16.6'</u>
	GROUNDWATER, AFTER <u>--</u> DAYS <u>--</u>
	HOLE CAVED, <u>16.7' wci</u> AT <u>completion</u>

ELEV.	DESCRIPTION	DEPTH Feet	SAMPLE	N	Qu		Wc		Remarks AASHTO
					LAB	FIELD	LAB	LAB	
38.2	SURFACE								
	<i>±3" Bituminous Concrete, ±6" PCC, ±5" Crushed Limestone Gravel</i>								
	<i>Red-Brown GRAVEL and Sand, trace Silt, medium dense, (GW)</i>		SS-1	16	--	--	8		A-1-b
		5	SS-2	14	--	--	7		A-1-b
			SS-3	23	--	--	3		A-1-b
		10	SS-4	16	--	--	3		A-1-b
			SS-5	22	--	--	2		A-1-b
	<i>Red-Brown SAND and Gravel, trace Silt, dense (SW)</i>		SS-6	39	--	--	4		A-1-b
		15	SS-7	13	--	--	19		A-3
	<i>Brown-Grey SAND (f-c), trace Gravel, medium dense, (SP) saturated past 17.0'</i>		SS-8	13	--	--	23		A-3
		20							
	continued								

SYMBOLS

N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
 LL: LIQUID LIMIT, %
 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION

SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
 BORING METHOD
 HSA- HOLLOW STEM AUGER
 CFA- CONTINUOUS FLIGHT AUGERS
 C- CASING
 MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-7 PAGE 2 OF 2

PROJECT NAME Ridge Road Improvements-Sewer Borings

MSET PROJECT NO. 76322

SITE LOCATION Evanston, Illinois

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N	Qu	Qp	Wc	Remarks
	CONTINUED	Feet			LAB	FIELD	LAB	AASHTO
	Brown-Grey to Grey SAND (f-m), trace to little Silt, medium dense, (SP)							
		25	SS-9	13	--	--	22	A-3
	End of Boring @ 25.0'							
	Notes: Approximate Sanitary Sewer Invert							

SYMBOLS

N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
 LL: LIQUID LIMIT, %
 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION

SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
BORING METHOD
 HSA- HOLLOW STEM AUGER
 CFA- CONTINUOUS FLIGHT AUGERS
 C- CASING
 MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-8 PAGE 1 OF 1

PROJECT NAME <u>Ridge Road Improvements-Sewer Borings</u>	DATE STARTED <u>12/26/06</u>
MSET PROJECT NO. <u>76322</u>	DATE COMPLETED <u>12/26/06</u>
SITE LOCATION <u>Evanston, Illinois</u>	LOGGED BY <u>SE</u> BORING METHOD <u>CFA</u>
<u>STA 178+00, 13' R</u>	GW ENCOUNTERED WHILE DRILLING <u>none</u>
	GROUNDWATER, AT COMPLETION <u>dry</u>
	GROUNDWATER, AFTER <u>--</u> DAYS <u>--</u>
	HOLE CAVED, <u>--</u> AT <u>--</u>

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N.	Qu	Qp	Wc	Remarks
38.3	SURFACE	Feet			LAB	FIELD	LAB	AASHTO
	<i>±3" Bituminous Concrete over ±8-1/2" PCC</i>							
	<i>Red-Brown SAND (f-c), little Gravel, medium dense, (SW)</i>		SS-1	12	--	--	4	A-1-b
	<i>to Brown, slightly dense</i>	5	SS-2	7	--	--	7	A-1-b
	<i>some Gravel, medium dense, (SP-GP)</i>		SS-3	17	--	--	6	A-1-b
		10	SS-4	15	--	--	6	A-1-b
			SS-5	19	--	--	5	A-1-b
	<i>End of Boring @ 12.5'</i>	15						
	<i>Notes:</i> <i>..... Approximate Sanitary Sewer Invert</i>							

SYMBOLS

N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
 LL: LIQUID LIMIT, %
 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION

SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
 BORING METHOD
 HSA- HOLLOW STEM AUGER
 CFA- CONTINUOUS FLIGHT AUGERS
 C- CASING
 MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-9 PAGE 1 OF 1

PROJECT NAME <u>Ridge Road Improvements-Sewer Borings</u>	DATE STARTED <u>12/26/06</u>
MSET PROJECT NO. <u>76322</u>	DATE COMPLETED <u>12/26/06</u>
SITE LOCATION <u>Evanston, Illinois</u>	LOGGED BY <u>SE</u> BORING METHOD <u>CFA</u>
<u>STA 181+75, 13' R</u>	GW ENCOUNTERED WHILE DRILLING <u>none</u>
	GROUNDWATER, AT COMPLETION <u>dry</u>
	GROUNDWATER, AFTER <u>--</u> DAYS <u>--</u>
	HOLE CAVED, <u>--</u> AT <u>--</u>

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N	Qu	Qp	Wc	Remarks
38.6	SURFACE	Feet			LAB	FIELD	LAB	AASHTO
	$\pm 3-1/2"$ Bituminous Concrete over $\pm 8"$ PCC over $\pm 5"$ Crushed Limestone							
	Red-Brown SAND (f-c) and GRAVEL, medium dense to dense, (SW)		SS-1	13	--	--	8	A-1-b
	to Brown	5	SS-2	7	--	--	9	A-1-b
			SS-3	35	--	--	5	A-1-b
		10	SS-4	23	--	--	5	A-1-b
			SS-5	20	--	--	4	A-1-b
	End of Boring @ 12.5'	15						
	Notes: Approximate Sanitary Sewer Invert							

SYMBOLS

N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
 LL: LIQUID LIMIT, %
 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION

SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
 BORING METHOD
 HSA- HOLLOW STEM AUGER
 CFA- CONTINUOUS FLIGHT AUGERS
 C- CASING
 MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-10 PAGE 1 OF 1

PROJECT NAME <u>Ridge Road Improvements-Sewer Borings</u>	DATE STARTED <u>12/26/06</u>
MSET PROJECT NO. <u>76322</u>	DATE COMPLETED <u>12/26/06</u>
SITE LOCATION <u>Evanston, Illinois</u>	LOGGED BY <u>SE</u> BORING METHOD <u>CFA</u>
<u>STA 207+25, 10' R</u>	GW ENCOUNTERED WHILE DRILLING <u>5.5'</u>
	GROUNDWATER, AT COMPLETION <u>6.5'</u>
	GROUNDWATER, AFTER <u>--</u> DAYS <u>--</u>
	HOLE CAVED, <u>6.7'</u> AT <u>completion</u>

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N	Qu	Qp	Wc	Remarks
27.8	SURFACE	Feet			LAB	FIELD	LAB	AASHTO
	$\pm 2\text{-}1/2\text{'}$ AC over $\pm 10\text{'}$ PCC							
	Brown SAND (f-m), slightly dense, (SP)		SS-1	8	--	--	8	A-3
		5	SS-2	8	--	--	11	A-3
			SS-3	9	--	--	29	A-3
		10	SS-4	11	--	--	37	A-3
	End of Boring @ 10.0'							
	Notes: Approximate Sanitary Sewer Invert							

SYMBOLS

N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
 LL: LIQUID LIMIT, %
 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION

SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
 BORING METHOD
 HSA- HOLLOW STEM AUGER
 CFA- CONTINUOUS FLIGHT AUGERS
 C- CASING
 MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-11 PAGE 1 OF 1

PROJECT NAME <u>Ridge Road Improvements-Sewer Borings</u> MSET PROJECT NO. <u>76322</u> SITE LOCATION <u>Evanston, Illinois</u> <u>STA 209+57, 10' R</u>	DATE STARTED <u>12/26/06</u> DATE COMPLETED <u>12/26/06</u> LOGGED BY <u>SE</u> BORING METHOD <u>CFA</u> GW ENCOUNTERED WHILE DRILLING <u>7.0'</u> GROUNDWATER, AT COMPLETION <u>7.7'</u> GROUNDWATER, AFTER <u>--</u> DAYS <u>--</u> HOLE CAVED, <u>wet</u> AT <u>7.7'</u>
---	---

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N	Qu	Qp	Wc	Remarks
28.6	SURFACE	Feet			LAB	FIELD	LAB	AASHTO
	<i>±2" Bituminous Concrete over ±10-1/2" PCC</i>							
	<i>Brown SAND (f-c), little Gravel, medium dense, (SP)</i>	5	SS-1	10	--	--	5	A-3
			SS-2	7	--	--	10	A-3
	<i>Brown Silty SAND, medium dense to slightly dense (SM)</i>		SS-3	11	--	--	25	A-2-4
		10	SS-4	11	--	--	26	A-2-4
			SS-5	6	--	--	27	A-2-4
		15	SS-6	6	--	--	26	A-2-4
			SS-7	7	--	--	29	A-2-4
	<i>intermittent SILT, (ML) seams @ 19.0' to 20.0'</i>		SS-8	12	--	--	25	A-4
	<i>End of Boring @ 20.0'</i>	20						

SYMBOLS
 N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
 LL: LIQUID LIMIT, %
 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION
 SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
 BORING METHOD
 HSA- HOLLOW STEM AUGER
 CFA- CONTINUOUS FLIGHT AUGERS
 C- CASING
 MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-12 PAGE 1 OF 1

PROJECT NAME <u>Ridge Road Improvements-Sewer Borings</u>	DATE STARTED <u>12/27/06</u>
MSET PROJECT NO. <u>76322</u>	DATE COMPLETED <u>12/27/06</u>
SITE LOCATION <u>Evanston, Illinois</u>	LOGGED BY <u>SE</u> BORING METHOD <u>CFA</u>
<u>STA 213+20, 12' R</u>	GW ENCOUNTERED WHILE DRILLING <u>7.5'</u>
	GROUNDWATER, AT COMPLETION <u>7.4'</u>
	GROUNDWATER, AFTER <u>--</u> DAYS <u>--</u>
	HOLE CAVED, <u>wet</u> AT <u>7.4'</u>

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N	Qu	Qp	Wc	Remarks
28.3	SURFACE	Feet			LAB	FIELD	LAB	AASHTO
	<i>±2-1/2" Bituminous Concrete over ±9" PCC over ±3" Crushed Gravel</i>							
	<i>Brown and Dark Brown SAND (f-m), trace Gravel: FILL</i>		SS-1	7	--	--	10	
	<i>Orange-Brown SAND (f-m), medium dense, (SP)</i>	5	SS-2	10	--	--	10	A-3
	<i>very moist</i>							
			SS-3	11	--	--	15	A-3
	<i>saturated</i>	10	SS-4	10	--	--	28	A-3
			SS-5	11	--	--	27	A-3
	<i>Grey SAND (f-m), little Silt, medium dense, (SM)</i>		SS-6	9	--	--	26	A-2
	<i>End of Boring @ 15.0'</i>	15						
	<i>Notes:</i>							
	<i>..... Approximate Sanitary Sewer Invert</i>							

SYMBOLS

N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
 LL: LIQUID LIMIT, %
 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION

SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
 BORING METHOD
 HSA- HOLLOW STEM AUGER
 CFA- CONTINUOUS FLIGHT AUGERS
 C- CASING
 MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-13 PAGE 1 OF 1

PROJECT NAME <u>Ridge Road Improvements-Sewer Borings</u> MSET PROJECT NO. <u>76322</u> SITE LOCATION <u>Evanston, Illinois</u> <u>STA 219+20, 9' L</u>	DATE STARTED <u>12/27/06</u> DATE COMPLETED <u>12/27/06</u> LOGGED BY <u>SE</u> BORING METHOD <u>CFA</u> GW ENCOUNTERED WHILE DRILLING <u>7.0'</u> GROUNDWATER, AT COMPLETION <u>9.3'</u> GROUNDWATER, AFTER <u>--</u> DAYS <u>--</u> HOLE CAVED, <u>wet</u> AT <u>9.4'</u>
--	---

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N.	Qu	Qp	Wc	Remarks
29.6	SURFACE	Feet			LAB	FIELD	LAB	AASHTO
	<i>±3" Bituminous Concrete over ±8" PCC</i>							
	<i>Red-Brown SAND (f-m), medium dense, (SP)</i>		SS-1	8	--	--	4	A-3
	<i>to Brown SAND (f-m), (SP)</i>	5	SS-2	9	--	--	6	A-3
			SS-3	14	--	--	6	A-3
	<i>wet</i>	10	SS-4	13	--	--	27	A-3
			SS-5	10	--	--	27	A-3
	<i>Grey SAND (f-m), little Silt, medium dense, (SP)</i>	15	SS-6	11	--	--	27	A-3
	<i>End of Boring @ 15.0'</i>							
	<i>Notes:</i> <i>..... Approximate Sanitary Sewer Invert</i>							

SYMBOLS

N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
 LL: LIQUID LIMIT, %
 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION

SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
 BORING METHOD
 HSA- HOLLOW STEM AUGER
 CFA- CONTINUOUS FLIGHT AUGERS
 C- CASING
 MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-14 PAGE 1 OF 1

PROJECT NAME <u>Ridge Road Improvements-Sewer Borings</u>	DATE STARTED <u>12/27/06</u>
MSET PROJECT NO. <u>76322</u>	DATE COMPLETED <u>12/27/06</u>
SITE LOCATION <u>Evanston, Illinois</u>	LOGGED BY <u>SE</u> BORING METHOD <u>CFA</u>
<u>STA 220+85, 10' L</u>	GW ENCOUNTERED WHILE DRILLING <u>12.5'</u>
	GROUNDWATER, AT COMPLETION <u>12.5'</u>
	GROUNDWATER, AFTER <u> </u> DAYS <u> </u>
	HOLE CAVED, <u>wet</u> AT <u> </u> <u>12.5'</u>

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N	Qu	Qp	Wc	Remarks
33.3	SURFACE	Feet			LAB	FIELD	LAB	AASHTO
	<i>±4" AC over ±9" PCC</i>							
	<i>Red-Brown to brown SAND (f-c), little Gravel, medium dense, (SP)</i>		SS-1	11	--	--	4	A-3
		5	SS-2	14	--	--	3	A-3
			SS-3	17	--	--	5	A-3
		10	SS-4	16	--	--	6	A-3
			SS-5	15	--	--	6	A-3
		15	SS-6	14	--	--	27	A-3
	<i>End of Boring @ 15.0'</i>							
	<i>Notes:</i> <i>..... Approximate Sanitary Sewer Invert</i>							

SYMBOLS

N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
 LL: LIQUID LIMIT, %
 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION

SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
 BORING METHOD
 HSA- HOLLOW STEM AUGER
 CFA- CONTINUOUS FLIGHT AUGERS
 C- CASING
 MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MIDLAND STANDARD ENGINEERING & TESTING, INC.

558 PLATE DRIVE UNIT 6 EAST DUNDEE, ILLINOIS 60118 (847) 844-1895

RECORD OF SUBSURFACE EXPLORATION

BORING SB-15 PAGE 1 OF 1

PROJECT NAME <u>Ridge Road Improvements-Sewer Borings</u>	DATE STARTED <u>12/27/06</u>
MSET PROJECT NO. <u>76322</u>	DATE COMPLETED <u>12/27/06</u>
SITE LOCATION <u>Evanston, Illinois</u>	LOGGED BY <u>SE</u> BORING METHOD <u>CFA</u>
<u>STA 222+80, 15' L</u>	GW ENCOUNTERED WHILE DRILLING <u>12.0'</u>
	GROUNDWATER, AT COMPLETION <u>dry</u>
	GROUNDWATER, AFTER _____ DAYS _____
	HOLE CAVED, <u>dry</u> AT <u>12.0'</u>

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N	Qu	Qp	Wc	Remarks
33.5	SURFACE	Feet			LAB	FIELD	LAB	AASHTO
	<i>±2" Bituminous Concrete over ±10" PCC</i>							
	<i>Brown SAND (f-c) and GRAVEL, medium dense, (SP-GP)</i>		SS-1	16	--	--	4	A-1-b
		5	SS-2	13	--	--	4	A-1-b
		10	SS-3	13	--	--	5	A-1-b
		10	SS-4	12	--	--	7	A-1-b
		10	SS-5	14	--	--	27	A-1-b
	<i>wet @ 12.0'</i>							
	<i>End of Boring @ 12.5'</i>							
	<i>Notes:</i> <i>..... Approximate Sanitary Sewer Invert</i>							

SYMBOLS

N: STANDARD PENETRATION, BLOWS/FT.
 Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
 Wc: WATER CONTENT, %
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 PI: PLASTICITY INDEX, %
 Dd: NATURAL DRY DENSITY, LBS./CU. FT.
 Qp: HAND PENETROMETER, TONS/SQ. FT.
 GW: GROUND WATER

SAMPLE DESIGNATION

SS-: DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
 ST- PRESSED SHELBY TUBE
 AU- AUGER SAMPLE
 RC- ROCK CORE - NXM
 BORING METHOD
 HSA- HOLLOW STEM AUGER
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 C- CASING
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NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

1/19/07

Summary of Sanitary Sewer Design Information

MSET File No. 76322

Boring I.D.	Sta.	Offset	Depth	Location	Elevation	Invert	Sewer Depth	Groundwater	Invert to GW	GW Elevation
SB-1	152+80	8'R	10.0'	102' N of Reba	37.29	32.00	5.29'	none		
SB-2	156+60	12'R	12.5'	119' N of Monroe	37.46	30.70	6.76'	none		
SB-3	159+90	14'R	15.0'	159' N of Madison	37.55	29.00	8.55'	none		
SB-4	163+90	13'R	15.0'	122' N of Washington	37.44	27.30	10.14'	none		
SB-5	167+60	12'R	17.5'	55' N of Main	37.35	26.00	11.35'	16.5	-5.15	20.85
SB-6	171+35	13'R	20.0'	257' S of Lee	38.07	22.50	15.57'	17.3	-1.73	20.77
SB-7	174+30	13'R	25.0'	42' N of Lee	38.20	21.00	17.20'	16.6	0.60	21.60
SB-8	178+00	13'R	12.5'	252' S of Greenleaf	38.30	31.40	6.90'	none		
SB-9	181+75	13'R	12.5'	120' N of Greenleaf	38.60	32.60	6.00'	none		
SB-10	207+25	10'R	10.0'	250' S of Grove	27.80	23.00	4.80'	6.5	-1.70	21.30
SB-11	209+57	10'R	20.0'	30' S of Grove	28.60	15.50	13.10'	7.7	5.40	20.90
SB-12	213+20	12'R	15.0'	220' S of Davis	28.30	18.50	9.80'	7.4	2.40	20.90
SB-13	219+20	9'L	15.0'	202' N of Davis	29.60	20.50	9.10'	9.3	-0.20	20.30
SB-14	220+85	10'L	15.0'	45' N of Church	33.29	26.00	7.29'	12.5	-5.21	20.79
SB-15	222+80	15'L	12.5'	240' N of Church	33.50	27.00	6.50'	12	-5.50	21.50

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Table 1

Midland Standard Engineering and Testing Inc.
CONSULTING ENGINEERS

558 Plate Drive, Unit 6, East Dundee, IL 60118

AGGREGATE ANALYSIS

Project:	Ridge Road Sewer	Test No.:	3
Location:	Evanston, IL	Date:	1/19/2007
Client:	Civiltech Engineering, Inc.	Our Job No.:	76322
Identification:	Brown SAND & Gravel, A-1-b (0)	GEN	
Intended Use:	Trench Backfill		
Sampled By:	MSET		
Source:	SB-2, SS-2, 3.5-5'		

Test Method C 136: Yes **Test Method C 117:** Yes

Sieve No.	Weight Retained	Accum. Weight Retained	% Retained	% Passing	Specifications	Result
1	0.0	0.0	0.0	100.0		
3/4	0.0	0.0	0.0	100.0		
1/2	13.6	13.6	8.5	91.5		
3/8	1.6	15.2	9.5	90.5		
No.4	15.2	30.4	19.0	81.0		
No.10	16.3	46.7	29.2	70.8		
No.20	38.7	85.4	53.4	46.6		
No.40	20.0	105.4	65.9	34.1		
No.100	45.3	150.7	94.2	5.8		
No.200	4.3	155.0	96.9	3.1		
PAN	0.2	155.2	97.0	3.0		

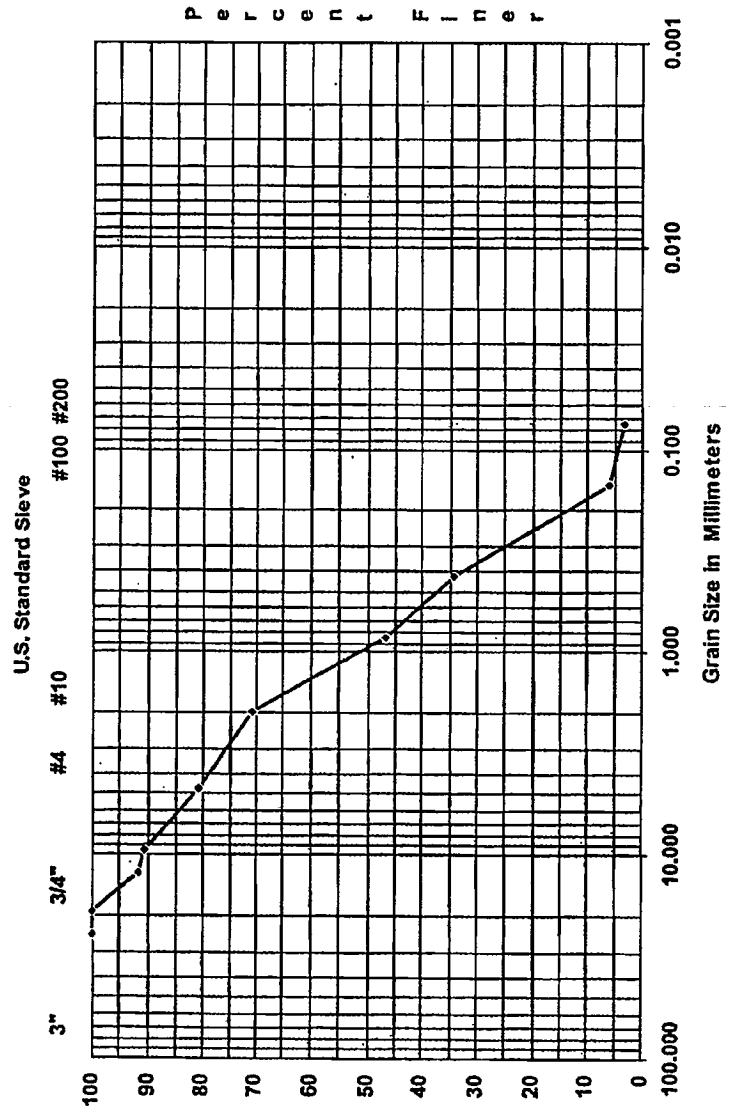
Tested By: JDS

Submitted By W PALGO

Received By: JDS

REPORT OF GRAIN SIZE ANALYSIS **Midland Standard Engineering and Testing Inc.**

Job No.: 76322
 Date: 1/19/2007
 Test No.: 3
 Identification: Brown SAND & Gravel, A-1-b(0)
 Material: GEN
 Source: SB-2, SS-2, 3.5-5'



Midland Standard Engineering and Testing Inc.
CONSULTING ENGINEERS

558 Plate Drive, Unit 6, East Dundee, IL 60118

AGGREGATE ANALYSIS

Project: Ridge Road Sewer **Test No.:** 4
Location: Evanston, IL **Date:** 1/19/2007
Client: Civiltech Engineering, Inc. **Our Job No.:** 76322

Identification: Brown SAND, A-3 (0) GEN
Intended Use: Trench Backfill
Sampled By: MSET
Source: SB-5, SS-3, 6-7.5'

Test Method C 136: Yes **Test Method C 117:** Yes

Sieve No.	Weight Retained	Accum. Weight Retained	% Retained	% Passing	Specifications	Result
1	0.0	0.0	0.0	100.0		
3/4	0.0	0.0	0.0	100.0		
1/2	0.0	0.0	0.0	100.0		
3/8	0.0	0.0	0.0	100.0		
No.4	0.2	0.2	0.2	99.8		
No.10	0.3	0.5	0.4	99.6		
No.20	0.5	1.0	0.8	99.2		
No.40	7.4	8.4	6.5	93.5		
No.100	110.9	119.3	92.6	7.4		
No.200	4.3	123.6	96.0	4.0		
PAN	0.3	123.9	96.2	3.8		

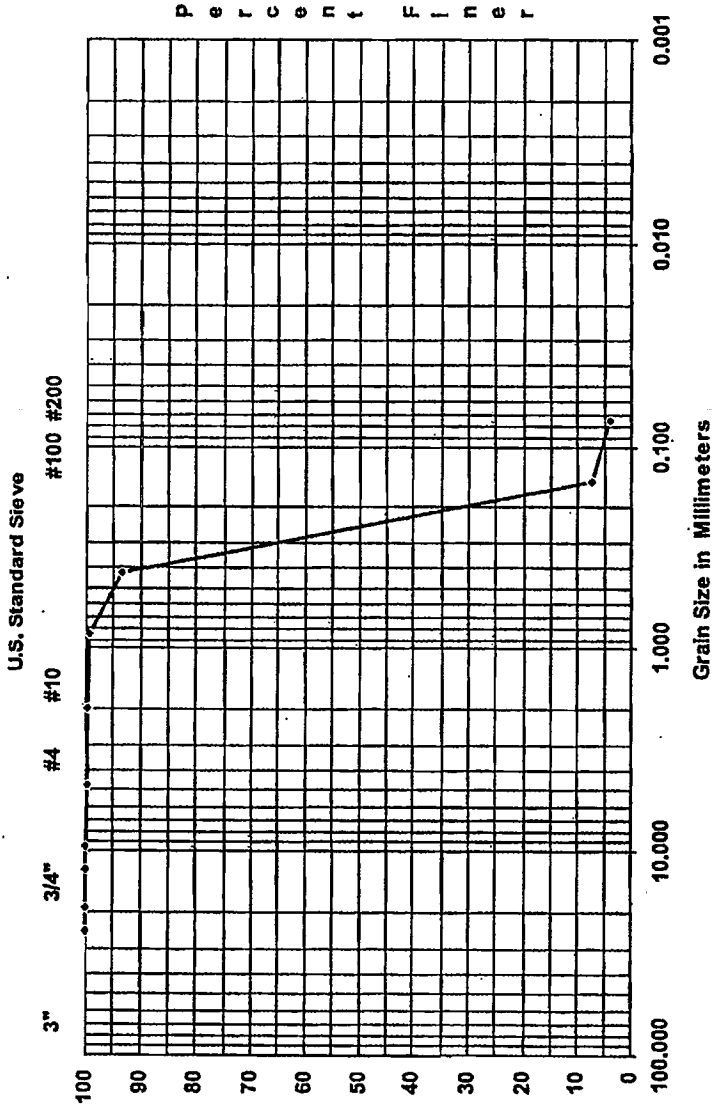
Tested By: JDS

Submitted By W-721603

Received By: JDS

REPORT OF GRAIN SIZE ANALYSIS Midland Standard Engineering and Testing Inc.

Job No.: 76322
 Date: 1/19/2007
 Test No.: 4
 Identification: Brown SAND, A-3 (0)
 Material: GEN
 Source: SB-5, SS-3, 6-7.5'



Midland Standard Engineering and Testing Inc.

CONSULTING ENGINEERS

558 Plate Drive, Unit 6, East Dundee, IL 60118

AGGREGATE ANALYSIS

Project: Ridge Road Sewer **Test No.:** 1
Location: Evanston, IL **Date:** 1/19/2007
Client: Civiltech Engineering, Inc. **Our Job No.:** 76322

Identification: Brown SAND & Gravel, A-1-b **GEN**

Intended Use: Trench Backfill

Sampled By: MSET

Source: SB-7, SS-3, 6.0-7.5'

Test Method C 136: Yes **Test Method C 117:** Yes

Sieve No.	Weight Retained	Accum. Weight Retained	% Retained	% Passing	Specifications	Result
1	0.0	0.0	0.0	100.0		
3/4	9.6	9.6	6.6	93.4		
1/2	12.0	21.6	14.8	85.2		
3/8	1.8	23.4	16.0	84.0		
No.4	21.5	44.9	30.7	69.3		
No.10	32.0	76.9	52.6	47.4		
No.20	20.4	97.3	66.6	33.4		
No.40	4.8	102.1	69.9	30.1		
No.100	31.9	134.0	91.7	8.3		
No.200	5.5	139.5	95.5	4.5		
PAN	0.5	140.0	95.9	4.1		

Tested By: JDS

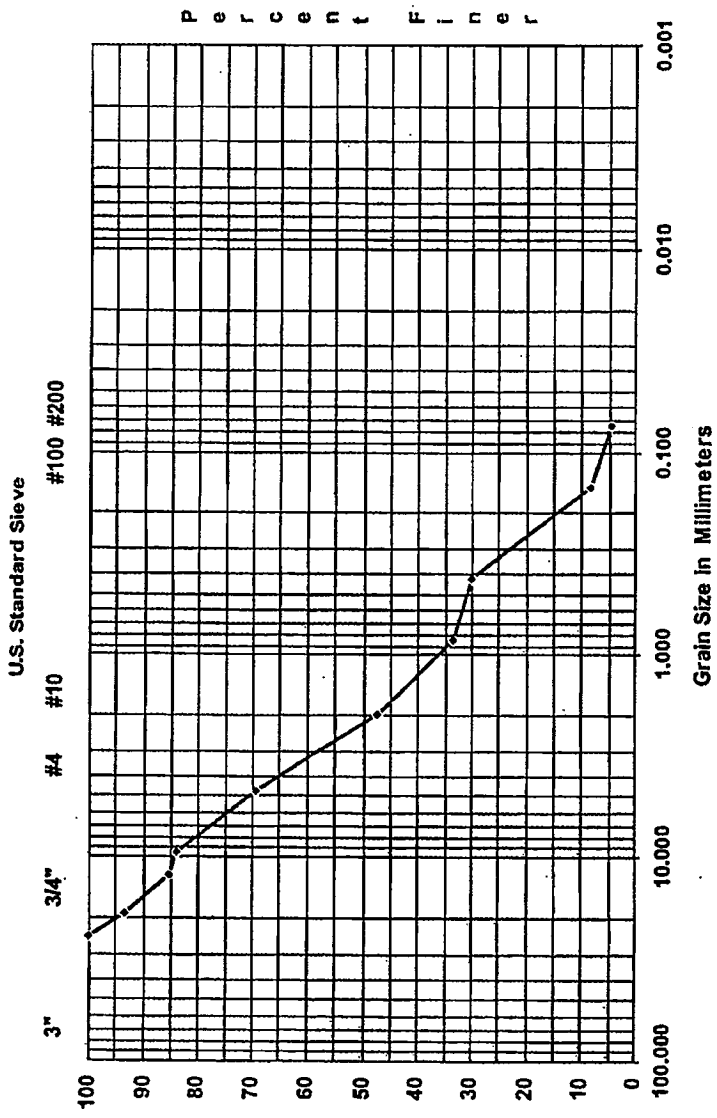
Submitted By: WJ PMB Co

Received By: JDS

1

REPORT OF GRAIN SIZE ANALYSIS Midland Standard Engineering and Testing Inc.

Job No.: 76322
 Date: 1/19/2007
 Test No.: 1
 Identification: Brown SAND & Gravel, A-1-b
 Material: GEN
 Source: SB-7, SS-3, 6.0-7.5'



Midland Standard Engineering and Testing Inc.
CONSULTING ENGINEERS

558 Plate Drive, Unit 6, East Dundee, IL 60118

AGGREGATE ANALYSIS

Project:	Ridge Road Sewer	Test No.:	2
Location:	Evanston, IL	Date:	1/19/2007
Client:	Civiltech Engineering, Inc.	Our Job No.:	76322
Identification:	Brown SAND& Gravel, A-1-b (0)	GEN	
Intended Use:	Trench Backfill		
Sampled By:	MSET		
Source:	SB-7, SS-6, 13.5-15'		
Test Method C 136:	Yes	Test Method C 117:	Yes

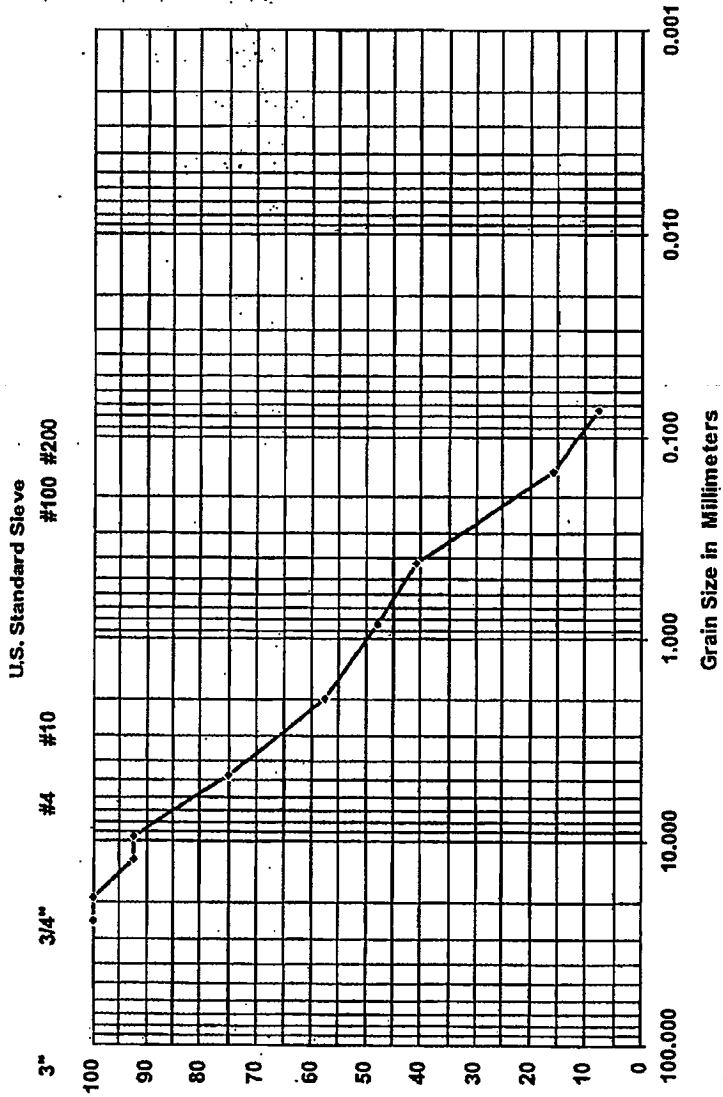
Sieve No.	Weight Retained	Accum. Weight Retained	% Retained	% Passing	Specifications	Result
1	0.0	0.0	0.0	100.0		
3/4	0.0	0.0	0.0	100.0		
1/2	7.0	7.0	7.5	92.5		
3/8	0.0	7.0	7.5	92.5		
No.4	16.2	23.2	25.0	75.0		
No.10	16.2	39.4	42.5	57.5		
No.20	9.2	48.6	52.4	47.6		
No.40	6.5	55.1	59.4	40.6		
No.100	23.0	78.1	84.2	15.8		
No.200	7.6	85.7	92.4	7.6		
PAN	0.5	86.2	92.9	7.1		

Tested By: JDS

Submitted By: W. P. G.

Received By: JDS

REPORT OF GRAIN SIZE ANALYSIS **Midland Standard Engineering and Testing Inc.**



Job No.: 76322
Date: 1/19/2007
Test No.: 2
Identification: Brown SAND & Gravel, A-1-b (0)
Material: GEN
Source: SB-7, SS-6, 13.5-15'

P **e** **r** **c** **e** **n** **t** **F** **i** **n** **e** **r**

Midland Standard Engineering and Testing Inc.
CONSULTING ENGINEERS

558 Plate Drive, Unit 6, East Dundee, IL 60118

AGGREGATE ANALYSIS

Project:	Ridge Road Sewer	Test No.:	6
Location:	Evanston, IL	Date:	1/19/2007
Client:	Civiltech Engineering, Inc.	Our Job No.:	76322
Identification:	Brown SAND, A-2-4 (0)	GEN	
Intended Use:	Trench Backfill		
Sampled By:	MSET		
Source:	SB-11, SS-5, 11-12.5'		

Test Method C 136: Yes **Test Method C 117:** Yes

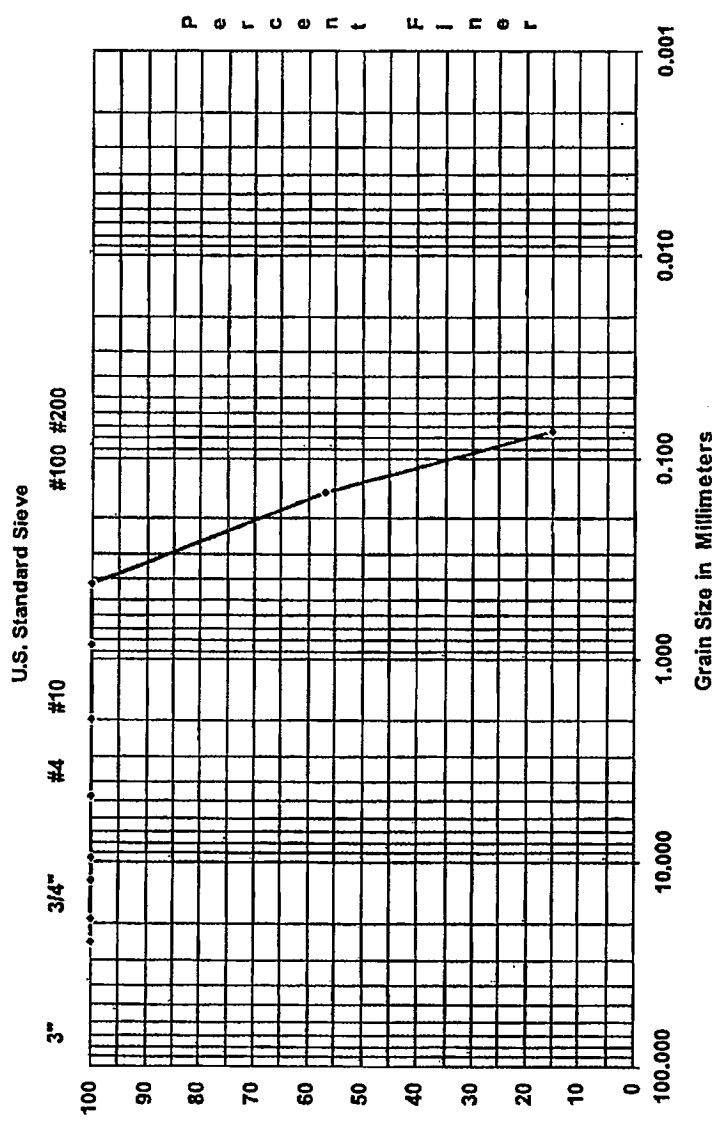
Sieve No.	Weight Retained	Accum. Weight Retained	% Retained	% Passing	Specifications	Result
1	0.0	0.0	0.0	100.0		
3/4	0.0	0.0	0.0	100.0		
1/2	0.0	0.0	0.0	100.0		
3/8	0.0	0.0	0.0	100.0		
No.4	0.0	0.0	0.0	100.0		
No.10	0.0	0.0	0.0	100.0		
No.20	0.0	0.0	0.0	100.0		
No.40	0.0	0.0	0.0	100.0		
No.100	34.3	34.3	43.3	56.7		
No.200	33.0	67.3	85.0	15.0		
PAN	1.2	68.5	86.5	13.5		

Tested By: JDS

Submitted By W-74160

Received By: JDS

REPORT OF GRAIN SIZE ANALYSIS Midland Standard Engineering and Testing Inc.



Job No.:
76322

Date:
1/19/2007

Test No.:
6

Identification:
Brown SAND, A-2-4
(0)

Material:
GEN

Source:
SB-11, SS-5, 11-12.5'

Midland Standard Engineering and Testing Inc.
CONSULTING ENGINEERS

558 Plate Drive, Unit 6, East Dundee, IL 60118

AGGREGATE ANALYSIS

Project:	Ridge Road Sewer	Test No.:	5
Location:	Evanston, IL	Date:	1/19/2007
Client:	Civiltech Engineering, Inc.	Our Job No.:	76322
Identification:	Brown SAND, A-3 (0)	GEN	
Intended Use:	Trench Backfill		
Sampled By:	MSET		
Source:	SB-14, SS-2, 3.5-5'		
Test Method C 136:	Yes	Test Method C 117:	Yes

Sieve No.	Weight Retained	Accum. Weight Retained	% Retained	% Passing	Specifications	Result
1	0.0	0.0	0.0	100.0		
3/4	0.0	0.0	0.0	100.0		
1/2	0.0	0.0	0.0	100.0		
3/8	0.0	0.0	0.0	100.0		
No.4	0.8	0.8	0.6	99.4		
No.10	4.4	5.2	3.7	96.3		
No.20	6.9	12.1	8.6	91.4		
No.40	22.6	34.7	24.6	75.4		
No.100	101.5	136.2	96.5	3.5		
No.200	2.3	138.5	98.2	1.8		
PAN	0.2	138.7	98.3	1.7		

Tested By: JDS

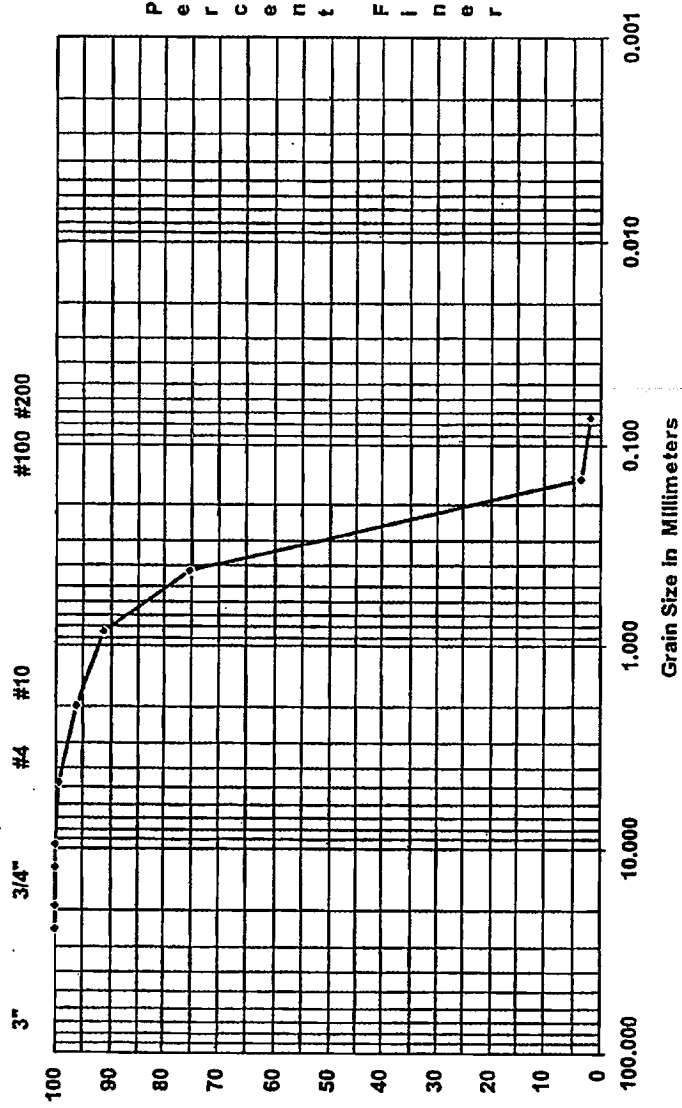
Submitted By: W. M. C. Co.

Received By: JDS

135

REPORT OF GRAIN SIZE ANALYSIS **Midland Standard Engineering and Testing Inc.**

U.S. Standard Sieve



Job No.: 76322
 Date: 1/19/2007
 Test No.: 5
 Identification: Brown SAND, A-3 (0)
 Material: GEN
 Source: SB-14, SS-2, 3.5-5'

GENERAL NOTES

PARTICLE SIZE DESCRIPTION & TERMINOLOGY

Coarse Grained or Granular Soils have more than 50% of their dry weight retained on a #200 sieve; they are described as: boulders, cobbles, gravel or sand. Fine Grained soils have less than 50% of their dry weight retained on a #200 sieve; they are described as: clays or clayey silts if they are cohesive and silts if they are non-cohesive. In addition to gradation, granular soils are defined on the basis of their relative in-place density and the fine grained soils on the basis of their strength or consistency and their plasticity.

Major Component of Sample	Size Range	Descriptive Term of Components Also Present in Sample	Approximate Quantity (Percent)
Boulders	Over 8 in. (200 mm)		
Cobbles	8 inches to 3 inches (200 mm to 75mm)	Trace	1 - 9
Gravel	3 inches to #4 sieve (75mm to 4.75mm)	Little	10 - 19
Sand	#4 to #200 sieve (4.75mm to 75mm)	Some	20 - 34
Silt	Passing #200 sieve (75mm to 2mm)	And	35 - 50
Clay	Smaller than 2mm		

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

GRANULAR SOILS

DENSITY CLASSIFICATION	APPROXIMATE RANGE OF N *
Very Loose	0 - 3
Slightly Dense	4 - 9
Medium Dense	10 - 29
Dense	30 - 49
Very Dense	50 - 80
Extremely Dense	80 +

COHESIVE SOILS

CONSISTENCY	UNCONFINED COMPRESSIVE STRENGTH, Q_u - TSF	APPROXIMATE RANGE OF N *
Very Soft	0.25	0 - 2
Soft	0.25 - 0.49	3 - 4
Firm	0.50 - 0.99	5 - 8
Stiff	1.00 - 1.99	9 - 15
Very Stiff	2.00 - 3.99	16 - 30
Hard	4.00 - 8.00	31 - 50
Very Hard	8.00 +	Over 50

* **STANDARD PENETRATION TEST** (ASTM D1586) - A 2.0" outside-diameter, split barrel sampler is driven into undisturbed soil by means of a 140 pound weight falling freely through a vertical distance of 30 inches. The sampler is normally driven 3 successive 6 inch increments. The total number of blows required for the final 12 inches of penetration is the Standard Penetration Resistance (N).

Ridge Avenue STP Improvement
Section No. 06-00241-00-PV
Job No.: C-91-145-07
Project No. HPP-0703(209)
Contract No.: 83968

GEWALT HAMILTON ASSOCIATES, INC.

DRAINAGE SPECIFICATIONS

**Special Provisions for Relief Sewer and Water Main Improvements
Prepared by Gewalt Hamilton Associates**

TRENCH BACKFILL, SPECIAL

1. Delete Section 208 in its entirety and replace it with the following:

208.01 Description. Trench backfill includes the furnishing, transporting, and placing of material for the backfilling of trenches from the top of pipe bedding to the subgrade of the pavement.

208.02 Case I - Trench Backfill in Paved Areas. Case I applies to excavation in any area which has or which is proposed to have under this Project a permanent type street, sidewalk, curb and gutter, bituminous paved parking lot, or is within 2 feet of a paved surface. Trench backfilling shall be performed in accordance with Article 550.07. Where backfilling a trench containing a single longitudinal pipe, Contractor shall use new (imported) granular material conforming to IDOT fine Aggregate Classification FA-6. Where backfilling a trench containing multiple longitudinal pipes (common trench), Contractor shall use new (imported) granular material conforming to IDOT Coarse Aggregate Classification CA-11 from 6-inches below the invert of the lowest pipe to 12-inches above the crown of the highest pipe and granular material conforming to IDOT gradation FA-6 from 12-inches above the crown of the highest pipe to the pavement sub-grade. Granular trench backfill shall be compacted to a minimum of 95% Standard Proctor Density as per ASTM-D698. Where native subsoils excavated from trenches meet the gradation, quality, and other requirements of Article 1003.04, this material shall be used to backfill trenches in lieu of new FA-6 material. Trench backfill shall be paid for in accordance with the Standard Specifications.

Use of native soil for backfill shall be incidental to the cost of the relief sewer or water main installation and no separate payment shall be made.

Trenches shall be backfilled with FA-6 granular material, or native subsoils meeting FA-6 requirements, up to 8 inches below the surface of the existing pavement. The remainder of the trench shall be backfilled as soon as possible with full-depth aggregate surface course installed as specified in Section 402. In no case shall trenches outside of protected excavation areas remain unpaved overnight. Payment for aggregate surface course shall be considered incidental to this pay item.

When specified by the Engineer and/or Owner, in the roadways of arterial streets, the top of the trench shall also receive Hot-Mix Asphalt Binder Course, IL-19.0, N50 consisting of 3-inches of TEMPORARY PAVEMENT placed over the aggregate surface course. The aggregate surface course shall be re-graded as necessary to permit the surface of the HOT MIX to be flush with existing hard-surface pavements. TEMPORARY PAVEMENT shall be placed as soon as practical after backfilling the trench and placing the aggregate surface course. The length of trench in arterial streets which has not been paved with TEMPORARY PAVEMENT shall not exceed 500 feet. Payment for TEMPORARY PAVEMENT will be paid for at the contract unit price per ton in accordance with the Standard Specifications.

The Contractor shall maintain aggregate surface course and TEMPORARY PAVEMENT free from, ruts, potholes or other displacements and provide means for dust control until such time as the permanent pavement is placed. Should settlements occur in excess of 1½ inches below the street grade, the Contractor shall furnish and install additional temporary paving material to maintain the

surface at street grade. Maintenance of temporary paving shall be incidental to the initial paving operation and no separate payment shall be made.”

2. Basis of Payment

- a. TRENCH BACKFILL (TBF), SPECIAL will be paid on a Contract unit price basis per CUBIC YARD of new (imported) TBF provided for placement between the top of bedding and the aggregate base course of the pavement structure within the standard trench widths as shown on the Drawings. The Contract unit price for TRENCH BACKFILL, SPECIAL shall be payment in full for all materials, labor, equipment, transportation and related work required to provide new (imported) Case I FA-6, CA-6, and CA-11 backfill, as appropriate, at the Project site for placement. No payment will be made for the hauling, compaction, placement, and testing of accepted native soils used as trench backfill.
- b. TRENCH BACKFILL, SPECIAL required for filling outside the standard trench widths shown on the Drawings shall be incidental to storm sewer, water main, relief sewer or combined sewer construction Payment Items and no separate payment shall be made.
- c. Costs associated with hauling, placement, compaction, and testing of Case I FA-6, CA-6 and CA 11 backfill material, Case I native subsoil backfill material, and Case II select backfill; and, disposal of excess excavated materials shall be considered incidental to storm sewer, water main, relief sewer or combined sewer construction Payment Items and no separate payment shall be made.
- d. Supply and installation of backfill around structures shall be incidental to the payment item for the structure.

STORM SEWERS, RUBBER GASKET, CLASS A, of type and size specified

1. Delete Article 550.01 and replace it with the following:

“**550.01 Description.** This work shall consist of constructing combined, relief, and storm sewers of the required inside diameter with necessary fittings and appurtenances.”

2. Delete Article 550.03 and replace it with the following:

“**550.03 Pipe Material Requirements.** Pipes used in sewer construction shall be as follows and as indicated on the drawings. Pipes shall be of uniform material and structural class between structures:

- (a) **Relief sewers 12-inch and larger.** Reinforced concrete sewer pipe having a laying length of not less than 7 feet. Special short lengths shall be provided for use in making closures and meeting manholes. Pipe shall meet the requirements of ASTM C-76, latest revision, “Reinforced Concrete Culvert, Storm Drain and Sewer Pipe”, be of the strength classification designated on the Contract Drawings, and otherwise meet this specification. Contractor shall design and submit details pertaining to the pipe sizes and pipe classifications which are not adequately detailed in ASTM C-76 to the Engineer for approval. Pipe shall be circular with circular reinforcement wall-type B or C and Type I Cement plus fly ash. The pipe will be subjected to field inspection by the Engineer. All tests shall be made in accordance with

ASTM C-76. All pipe shall have bell and spigot ends. Spigot ends shall be grooved to accommodate a watertight rubber "O-Ring" type joint gasket meeting the provisions of ASTM C-443. The gasket sealing the joint shall be made of natural rubber having a texture to assure a watertight and permanent seal and shall be the product of a manufacturer having at least five years experience in the manufacture of rubber gaskets for pipe joints. The gasket shall be a continuous ring, of suitable circular cross-section and of such size as to make the joint watertight when the pipes are held. The rubber gasket shall have a reasonably smooth surface free from pitting, blisters, porosity and other imperfections, meeting the requirements of ASTM C-443, latest revision. Lifting holes shall not be permitted on pipes less than 84-inch diameter.

- (b) **Catch basin and inlet leads where indicated on drawings** - Ductile iron pipe conforming to ANSI 21.51 (AWWA - C151); of a minimum thickness Class 52 as designed per ANSI A21.50 (AWWA - C150) except as designated on the Contract Drawings; tar (seal) coated per ANSI A21.4(AWWA - C104); and, with push-on joints per ANSI A21.11(AWWA - C111)."

3. Add the following paragraphs to Article 550.04:

"The width and depth of trench excavation for all pipes shall be as shown on the Drawings. Along the proposed pipe alignments indicated on the Drawings, Contractor shall remove the surface materials only to such widths as will permit a trench to be excavated, which will afford sufficient room for efficient and proper construction. Where sidewalks, driveways, pavements, and curb/gutter are encountered, care shall be taken to protect such against fracture or disturbance beyond these working limits.

Prior to the placement of all pipe, bedding shall be placed on the trench bottom, compacted and shaped to receive the pipe. Bedding shall consist of gravel or crushed limestone conforming to CA-11 of Section 1004 for RCP and DIP sewers, and ASTM D2321 Class IB for PVC Sewers. Geotextile filter fabric, Trevira 1114 or equal, shall be provided to encase the pipe bedding and initial pipe cover in trenches through wet, soft, and/or granular native soils and elsewhere as directed by Engineer. The geotextile fabric shall be placed as shown on the Drawings.

The trench shall be excavated to the alignment and depth required and may be advanced up to 50 feet ahead of the pipe laying operation during working periods and up to 20 feet ahead of pipe laying operations during non-work periods. Trenching operations shall be terminated at the end of each day's work in locations which do not obstruct roadways, alleys or driveways. In general, the length of open trench shall not exceed 70 feet from the forward cut to the completely backfilled trench nor shall more than one street crossing be obstructed by the same trench at any one time. Open cut excavations shall be reduced to a maximum length of 30 feet for overnight protection.

Contractor shall conduct dewatering as necessary to maintain the water table level below the trench bottom prior to and during pipe laying, jointing and backfilling. The dewatering operation, however accomplished, shall be carried out so that it does not destroy or weaken the strength of the soil under or alongside the trench.

When closed sheeting is used, it shall be driven so as to prevent adjacent soil from entering the trench either below or through such sheeting. Sheeting shall remain in place until the pipe has been laid; backfilled to a depth of one-foot above the crown of the pipe and the backfill material compacted. Sheeting shall be removed in a manner which minimizing the disturbance to trench backfill and

prevents voids from occurring. Generally, bracing and sheeting should be removed progressively as the trench is backfilled. Contractor shall not be allowed extra compensation for bracing and sheeting which Contractor elects to leave in place to protect adjacent utilities, structures, and/or pavements. Sheeting left in place shall be cut off at a depth of at least six feet, unless otherwise specified or directed by the Engineer.

Contractor shall divert all sanitary flow around the construction area by means of flumes or temporary by-pass pumping systems. Pumping shall be sufficient such that no backing up of sanitary flow will occur. Contractor shall be responsible for all damage resulting from negligence in creating restrictions to flow within the sewer system. Contractor shall not interrupt the flow from individual sanitary services for more than four hours. Sanitary flows shall not be diverted into catch basins or relief sewers.

Open-cut trenches shall be supported as required to fully protect life, existing utilities, adjacent structures, pavements, and the Work. Trench support is an integral part of the Contractor's means and methods. The Contractor shall employ the services of a registered (Illinois) Structural Engineer, registered (Illinois) Professional Engineer, Geotechnical Engineer, and other professionals as necessary to prepare designs of support systems. The support systems shall conform to Federal laws, State laws and municipal ordinances. The minimum protection shall conform to the recommendations in O.S.H.A. Safety and Health Standards for Construction. A sand box or trench shield may be used as permitted by O.S.H.A.

4. Delete the first paragraph of Article 550.05 and replace it with the following:

“Sewers designated on the Drawings to be abandoned shall be filled with Controlled Low-Strength Material (CLSM), unless otherwise specified by the Engineer. CLSM shall meet the following requirements:

- (a) Materials. CLSM shall consist of a mixture of portland cement, fly ash, fine aggregate, and water proportioned to provide a backfill material that is self-compacting and capable of being excavated with hand tools if necessary at a later date. All materials shall meet the following requirements:

Portland Cement, Type I	Section 1001
Water	Section 1002
Fine Aggregate (Natural Sand)	Section 1003.02
Fly Ash	Section 1010.02

- (b) Proportioning. Materials for CLSM shall be proportioned as follows:

Portland Cement	50 lbs.
Fly Ash	300 lbs. (if Type F) or 200 lbs. (if Type C)
Fine Aggregate (Saturated Surface Dry)	2900 lbs.
Water	45-65 gallons

These quantities will yield approximately one cubic yard of CLSM of the proper consistency. The flowability shall be observed by the Engineer and the water content adjusted within the specified limits to produce desired results. The CLSM shall be ready-mixed as specified in Section 1020.11 of the Standard Specifications. Sufficient mixing capacity shall be provided to permit the CLSM to be placed without interruption. The mixer drum shall be completely

emptied prior to the initial batch of CLSM to ensure that no additional cement fines are incorporated into the mix.

- (c) Placement. The CLSM shall be discharged directly from the truck into the space to be filled, or by other methods approved by the Engineer.”

5. Add the following paragraphs to Article 550.06:

“Laying of sewer pipe shall be accomplished to line and grade in the trench only after it has been dewatered and the foundation and/or bedding has been prepared. Mud, silt, gravel, and other foreign material shall be kept out of the pipe and off joint surfaces. All pipe laid shall be retained in position so as to maintain alignment and joint closure until sufficient backfill has been completed to adequately hold the pipe in place.

Pipe alignment shall not deviate by more than 0.5 inch or 0.25 inch per foot of diameter, whichever is greater, from true vertical alignment; or 2.0 inches or 0.5 inch per foot of diameter, whichever is greater, from true horizontal alignment, prior to and following placement and compaction of backfill. Sewers found to vary from these alignment criteria shall be excavated and relayed or otherwise corrected as approved by the Engineer.

Contractor shall check line and grade of each pipe section installed with laser beam; and, in the event they do not meet specified limits described hereinafter, the work shall be immediately stopped, the Engineer notified, and the cause remedied before proceeding with the Work.

Installation of PVC sewers shall conform to ASTM D2321. After installing any sewer on the bedding and the joint made, backfilling to one foot above the crown of the pipe shall be placed to form a granular encasement. The pipe shall be laid so that it will be uniformly supported for the entire length of its pipe barrel fully bearing on the aggregate cradle. No blocking of any kind will be permitted to adjust the pipe to grade.

All branch sewer connections shall meet the structural, jointing, and water-tightness requirements for the mainline pipe to which they are made. Break-in-connections will not be allowed. Connections of pipe 18-inches in diameter or smaller to RCP may be made using cast-in or cored-in flexible couplings meeting ASTM C-923, or precast wye or tee fittings as approved by Engineer. Connections of pipe larger than 18-inch diameter to RCP shall be with pre-cast wye or tee fittings as approved by Engineer. Connections to PVC or DIP shall be made using factory-made wye or tee fittings. **Tapping saddles may NOT be used for connections to PVC pipe.** Connections may be tees or wyes at Contractor's option, unless shown otherwise on the Drawings.

Plugs for pipe branches, stubs, or other open ends, which are not to be immediately connected, shall be made of an approved material and shall be secured in place with a joint comparable to the main line joint. Stoppers may be of an integrally cast breakout design.

Flex-Seal adjustable repair couplings with stainless steel shear ring as manufactured by Mission Rubber Company or City of Evanston approved equal shall be used for construction of new pipe to existing pipe and where dissimilar pipe and joint materials are encountered.

6. Add the following paragraphs to Article 550.07:

“Covering of the pipe to a depth of one-foot over the top of the pipe shall be performed by a method which assures that materials fill and support the haunch areas of the pipe, encasing the pipe to the limits as indicated. The aggregate shall be placed in layers not exceeding six inches (6”) in thickness and carried up at the same levels on both sides of the pipe. Each layer shall be thoroughly compacted and tamped under and around the pipe.

Cover and backfill shall be compacted in accordance with Method 1 or Method 3, and shall achieve a Standard Proctor Density of not less than 95 percent as tested in accordance with Section 106. To facilitate compaction by Method 3, the Contractor shall provide a well point/pump system, sump pits and pumps, or other proactive procedures approved by the Engineer for extracting the water used for backfill compaction from the pipe bedding material. The spacing between extraction points shall be sufficient to assure adequate water velocities for the jetting process and to assure that the backfill and/or bedding will not become over-saturated such that compaction is lost. In any case, jetting water extraction points shall be located not more than 400 feet apart.

Following completion of the backfilling process, the final layer of backfill shall also be inundated with water in accordance with Method 2. The Contractor shall repair any subsidence which occurs prior to paving by adding additional backfill material and compacting in accordance with Method 1.

Contractor shall repair any subsidence greater than 1½ inches which occurs following paving by removing paving, installing additional backfill, compacting in accordance with Method 1, and re-installing paving. Contractor shall repair any subsidence 3-inches or less which occurs following base course paving by installing additional leveling binder immediately prior to installation of the bituminous surface course. Contractor shall repair any subsidence, which occurs following installation of bituminous surface course by installation of additional surface course. The unsettled pavement surrounding the subsidence area shall be milled to a depth of 1½ inches for at least the full lane width each way of the subsidence transverse to the direction of traffic and 20-feet each way of the subsidence longitudinal to the direction of traffic. Concrete pavement displaced more than ½ inch by subsidence shall be removed and replaced to the nearest contraction joints, expansion joints, curbs, or transitions to other pavement types, as applicable. The cost of correcting subsidence, including additional paving, shall be borne by the Contractor at no additional cost to the Owner, whether that subsidence is caused by the Contractor's failure to adequately compact backfill or otherwise perform the Work, or is inherent in the construction methods utilized, including tunneling.”

7. Add Article 550.11 which shall read as follows:

“Contractor shall be responsible for all on-site and off-site testing for the Work performed under this Section. Contractor shall retain the services of an independent certified testing laboratory to perform all testing. All testing shall be in accordance with Section 106 of this Specification and the Standard Specifications. Copies of all on-site and off-site test reports shall be submitted to the Engineer. Certified test reports will be acceptable for material proposed to be incorporated into the Work; however, final acceptance will be based on the material as it is actually incorporated into the Work. Testing shall including the following:

- (a) **Pre-construction and Post-construction Sub-surface Videotaping.** Prior to commencing construction and following completion of construction, Contractor shall conduct a closed-circuit internal television inspection of existing mainline combined, storm and sanitary sewers along the routes of the proposed relief sewer, combined sewer, and water mains. The purpose

of the televising is to document the condition of the existing sewers prior to the start of the construction and any change in condition, which occurs as a result of construction. Following completion of sewer and water main installation, infiltration/exfiltration testing, backfill compaction testing, and deflection testing, but before final restoration and placing sewers in service, the Contractor shall conduct an internal television inspection of all new mainline sewers 48 inch in diameter or smaller. Inspection of new mainline sewers shall be performed in the presence of the Engineer.

The closed circuit camera and other televising equipment used shall be specifically designed for sewer line inspection. The camera shall be cable drawn. The camera shall be high-resolution color and shall be equipped with a lighted, pivoting head to view branch connections. For sewers 24-inches and larger, the camera shall be mounted on an appropriately sized skid so that the camera is centered in the sewer. Camera pull speed through the mainline pipe shall not exceed 30 feet per minute, the camera should be paused at every connection, and the camera panned to view the full interior of the connection. Crawler-type cameras shall not be used unless the sewer cannot be televised using cable drawn equipment, such as dead-end sewers or sewers so obstructed that pulling cables cannot be installed. If, during the internal inspection, the camera cannot pass through the entire sewer from a single set-up, the sewer internal inspection shall be completed using a reverse set-up from an adjacent manhole. If the sewer cannot be inspected over the remainder of its full length using the reverse set-up, Contractor shall notify the Engineer immediately while the camera remains in the sewer.

Contractor shall record the internal inspection on DVD format. Each DVD made shall be labeled "**City of Evanston Ridge Avenue Relief Sewer Improvements**" and shall be consecutively numbered. An index of each DVD shall be provided which includes DVD number, street/alley location (including names of end-blocks), beginning manhole number, ending manhole number, length of sewer, diameter of sewer, beginning and ending counter numbers. Contractor shall utilize the Owner's manhole numbering system (available through Engineer) to identify the existing sewer sections televised. For post-construction inspection of new sewers, the manhole numbering system shown on the Drawings, prefaced by "**Ridge Avenue Relief Sewer Improvements**" or other project designation, shall be utilized. The upstream manhole number, downstream manhole number and footage from beginning manhole shall be superimposed on the video image.

Contractor shall also prepare a written report for each section of sewer televised. Each report shall be labeled "**Ridge Avenue Relief Sewer Improvements**" and shall be coordinated with the DVD. For each sewer section televised, the report shall include: date of inspection, DVD reference number including counter readings, street location (including names of end-blocks), beginning manhole number, ending manhole number, length of sewer, diameter of sewer, and pipe material. The report shall note the locations (as a distance from the beginning manhole) the locations, orientations (o'clock position) and appropriate size parameters of: service and other connections; pipe defects, such as cracks, offsets, sags, deformations and break-in connections; water infiltration; mineral, grit, and grease build-ups; root intrusions; and, other irregularities.

- (b) **Backfill Compaction.** During the installation of Case I backfill material, the Contractor shall conduct density testing specified in Article 550.07. The cost of testing shall be incidental to storm sewer, water main, relief sewer and combined sewer installation and no separate payment shall be made.

- (c) **Infiltration/Exfiltration Testing.** Contractor shall conduct infiltration testing of each manhole-to-manhole section of relief sewer after the pipe is installed and backfilled, but before street paving operations commence. If Contractor elects to compact backfill by jetting (Article 550.07 - Method 3), then the infiltration test shall be performed during the jetting operation. Where the depth of the ground water is less than 24 inches over the crown of the pipe at the upstream section to be tested, an exfiltration test shall be used in place of an infiltration test.

Infiltration tests shall be made by measuring the flow of infiltrating water over a calibrated weir set up in the invert of the sewer. Personnel for reading flow measuring devices will be furnished by the Engineer, but all other labor, equipment, material and water, including gauges and meters, will be furnished by the Contractor.

Exfiltration tests shall be made by bulk-heading the section to be tested and completely filling the subject sewer. The bulkheads shall be watertight and shall be adequately braced to withstand the head of water pressure that will be applied in the testing process. As such, the Contractor shall employ the services of a Registered (Illinois) Structural Engineer for bulkhead and bulkhead bracing design. The exfiltration test shall be conducted by filling the sewer to a level four feet above the crown of the sewer in the manhole at the upper end of the section being tested. The rate of flow required to keep this required level will be the exfiltration. Tests shall be conducted for at least two hours.

No additional pipe shall be laid until the infiltration/exfiltration test on each manhole-to-manhole section of pipe meets specified limits following:

- Exfiltration: 100 gallons per day per inch of pipe diameter per mile of sewer.
- Infiltration: 100 gallons per day per inch of pipe diameter per mile of sewer.
- No visible leaks which endanger the pipe or surrounding bedding/ backfill.

If the specified infiltration/exfiltration limits are exceeded, the Contractor shall televise or internally inspect the sewer in the presence of the Engineer to identify the source(s) of the leakage. Contractor shall immediately make all repairs and/or replacements necessary to achieve the specified infiltration/exfiltration limits. After all repairs are made, the Contractor shall again make an infiltration or exfiltration test. All costs of internal inspection to locate leakage sources, other testing and pipe correction shall be borne by the Contractor at no additional cost to the Owner.

- (d) **Deflection Testing.** For PVC pipes, a deflection test shall also be performed as described in the Standard Specifications for Water and Sewer Construction in Illinois. The maximum permitted deflection shall be 5 percent. Those pipe sections failing deflection testing shall be corrected by re-excavating the pipe, allowing the pipe to return to its circular cross-section (or replacing the pipe if necessary), and replacing the pipe cover and backfill. Devices that generate internal pressures or vibrations shall not be used to correct pipes failing the deflection test. The cost for deflection testing and pipe correction shall be incidental to the prices bid for Sewer Items. No additional payment will be made for deflection testing or correction of defects located."

- (e) **Internal Television Inspection:** Following completion of open-cut sewer installation, infiltration/exfiltration testing, backfill compaction testing, and deflection testing, but before final surface is installed, the Contractor shall conduct an internal television inspection of all mainline sewers installed. The television camera used shall be high resolution color, shall be

equipped with a revolving head capable of viewing up service connections, and shall be equipped with a footage counter which records on the DVD. For televising pipes 54-inches and smaller, the camera shall be stopped at each lateral connection and the camera head rotated to give a full view of the interior of the lateral. DVD format shall be made of the internal inspections and given to the Owner. The cost of televising the Relief Sewer, Combined Sewer, Storm Sewer, Sanitary Sewer, shall be considered incidental. No additional payments will be made for this work.

8. Basis of Payment

- a. Relief sewers and combined sewers shall be paid on a Contract unit price basis per LINEAR FOOT of sewer of the diameter, material, and strength class actually installed. Payment items are defined below for the various sizes, classes, and materials used, including RCP (reinforced concrete pipe), DIP (ductile iron pipe), and PVC (poly-vinyl chloride) pipe.
- b. The Contract unit prices for RCP, DIP, and PVC sewers shall be payment in full for all materials, labor, and equipment required for: site preparation, including removal, replacement and/or repair of fences and other site objects; trench excavation, including removal and disposal of existing sewer pipes, structures, and excess excavated materials; protection, support and repair of damage to existing utilities; support of trench walls, including shoring and bracing; dewatering of trenches; temporary pumping of flows in existing and new sewers; sewer pipe, including fittings, fittings as necessary to reconnect catch basin outlet leads, risers, adapters, couplings, collars and other components; connection of existing sewers to the proposed sewer; abandonment of existing sewers where called out on the Drawings, including filling and placement of required plugs; bedding placement and compaction to one foot above the top of the pipe; backfill placement, compaction and compaction testing; infiltration/exfiltration testing of sewers; internal television inspection of all pipes; deflection testing of sewers; correction of defects; and, other related work required to complete the installation which is not included under other Payment Items.
- c. The Contract unit price for RCP, DIP, and PVC sewers shall include: combined sewer repairs where shown on the Drawings.
- d. Measurement of this Payment Item shall include all straight sections of pipe and all bends and other fittings, including wyes, tees, reducers and rubber check valves actually installed. The measurement for relief and combined sewers of the materials and sizes specified shall not include the distance through base tee manholes, other manholes, and drop structures. In the case of cast-in-place structures, the distance not included in relief and combined sewer measurement shall be the length from outside of the structure wall on the upstream side of the structure to the outside of the structure wall on the downstream side of the structure as shown on the Drawings. In the case of precast structures, the distance not included in relief and combined sewer measurement shall be the distance between the first joints in standard pipe sections upstream and/or downstream of the structure. Measurement and payment for manholes, base tee sections and other structures shall be made under the appropriate Payment Items for these structures.
- e. This item shall not include the costs of installations and adjustments of sanitary and water services, which shall be paid for in accordance with the appropriate Payment Items. Adjustment of other existing house service utilities, including gas, electric, cable TV and

telephone services, shall be considered incidental to the Work and no separate payment shall be made.

- f. This item shall not include the cost of pavement, sidewalk, driveway, and curb/gutter removal and disposal within the pay limits shown on the Drawings. Roadway, sidewalk, driveway, and curb/gutter removal/replacement within pay limits or as directed by the Engineer shall be paid for in accordance with the appropriate Payment Items.
- g. Roadway, sidewalk, driveway, and curb/gutter removal/replacement outside the pay limits shown on the Drawings required for completion of the Work or for Contractor's purposes shall be incidental to combined sewer, relief sewer, storm sewer, and sanitary sewer construction and no separate payment shall be made.

This work will be paid for at the contract unit price per lineal foot for STORM SEWERS, RUBBER GASKET, CLASS A, *of type and size specified*, which price shall include all labor, equipment and materials necessary to perform said work.

DUCTILE IRON WATER MAIN 6"

1. Add the following to Article 561.01:

"Where shown on the Drawings, Line Stopping shall be performed. This work shall involve the placement of a self-contained hydraulic unit within an operating water main for the purpose of installation of a valve and/or other connection with the existing system without interruption of service."

2. Add the following to Article 561.02:

- (a) Fittings. All fittings furnished shall be ductile iron conforming to AWWA Standard for Ductile Iron Compact Fittings C153, 350 psi rating. Fittings shall be mechanical joint and shall be equipped with Mega-Lug or equal joint restraining glands. Restraining glands which rely on the bearing of screw-points on the water main wall shall not be utilized. All fittings shall be cement-mortar lined inside and bituminous-coated outside, in accordance with Sec. 51-8 - ANSI A21.51 (AWWA C104 and C151).
- (b) Ductile Iron Pipe Water Main. All ductile iron pipe shall be thickness class 52 in accordance with AWWA Standard Specifications for Ductile Iron Pipe, centrifugally cast in Metal Molds for water or other Liquids - AWWA -C151 latest revision. The whole of the above Specifications shall apply. The pipe shall be furnished with push-on joints. All pipe shall be cement-mortar lined inside and bituminous-coated outside, in accordance with Sec. 51-8 - ANSI A21.51 (AWWA C104 and C151). All ductile iron pipe must be clearly marked by the manufacturer to indicate pipe classification or pipe thickness. Unmarked pipe will not be accepted.
- (c) Solid "Duo Type" Sleeves: Solid sleeves shall be Clow, Tyler or approved equivalent, and shall conform in all respects to the AWWA Standards, latest revision, plus the following specifications. Solid sleeves shall be ductile iron construction, duo sleeve type, 12-inches long with standard oversized accessories. Capable of coupling ductile iron pipe to heavy wall cast

iron pipe.

Shop drawings for water system components shall be submitted for approval as soon as possible, but not less than thirty (30) calendar days prior to the time when the components are intended to be installed."

3. Add the following additional sentences to Subparagraph (a) of Article 561.03:

"The trench shall have a flat bottom conforming to the grade to which the pipe is to be laid, and provided with a minimum of 5-feet, 6-inches of cover. The width of trench excavation for all pipes shall be as shown on the Drawings. Along the proposed pipe alignments indicated on the Drawings, Contractor shall remove the surface materials only to such widths as will permit a trench to be excavated, which will afford sufficient room for efficient and proper construction. Where sidewalks, driveways, pavements, and curb/gutter are encountered, care shall be taken to protect such against fracture or disturbance beyond these working limits.

Prior to the placement of all pipe, bedding shall be placed on the trench bottom, compacted and shaped to receive the pipe. The pipe shall be placed in bedding conforming to Section 1003 and as shown in the Drawings. Any part of the trench excavated below the grade shall be corrected with approved material, firmly compacted. Where the Contractor must excavate below the plan grade indicated because of unforeseen conditions, all additional excavation and backfilling will be considered incidental to the Contract. In some instances, trees, shrubs, utilities, sidewalks and other obstructions may be encountered, the proximity of which may be a hindrance to open-cut excavation for installation of water mains and appurtenances. In such cases, the Contractor shall excavate by means of auger in order to protect such obstructions against damage. Augering work shall be performed in accordance with the clearances and procedures specified in Article 550.04."

The trench shall be excavated to the alignment and depth required and may be advanced up to 50 feet ahead of the pipe laying operation during working periods and up to 10 feet ahead of pipe laying operations during non-work periods. Trenching operations shall be terminated at the end of each day's work in locations that do not obstruct roadways, alleys or driveways. In general, the length of open trench shall not exceed 70 feet from the forward cut to the completely backfilled trench nor shall more than one street crossing be obstructed by the same trench at any one time. Open cut excavations shall be reduced to a maximum length of 30 feet for overnight protection.

Open-cut trenches shall be supported as required to fully protect life, existing utilities, adjacent structures, pavements, and the Work. Trench support is an integral part of the Contractor's means and methods. The Contractor shall employ the services of a registered (Illinois) Structural Engineer, registered (Illinois) Professional Engineer, Geotechnical Engineer, and other professionals as necessary to prepare designs of support systems. The support systems shall conform to Federal laws, State laws and municipal ordinances. The minimum protection shall conform to the recommendations in O.S.H.A. Safety and Health Standards for Construction. A sand box or trench shield may be used as permitted by O.S.H.A.

4. Add the following subparagraphs to Article 561.03:

(c) Notification. Wherever construction activities will disrupt water mains and/or individual water services, the Contractor shall develop a workplan for limiting the extent and duration of the disruption. This workplan shall be submitted to the City of Evanston Water & Sewer Department for review and approval not less than two weeks before the planned disruption.

No disruption will be permitted until said workplan has been reviewed and approved.

In addition, it is the responsibility of the Contractor to directly notify the City of Evanston Water & Sewer Department, affected customers, and, if fire hydrants are affected, the City of Evanston Fire Department not less than 48-hours in advance of the start of the disruption, advising them of the planned time and duration of the disruption. Each disruption to the mainline system; an individual service; or, group of services, when they are being transferred to a new water main in a single, staged construction operation, shall be considered a separate occurrence, for which notification shall be provided. The Contractor shall also directly notify the City of Evanston Water & Sewer Division not less than 48-hours in advance of mainline pressure-testing and disinfection operations. In cases where construction activities will require operation of water main valves, the City of Evanston Water & Sewer Department will be responsible for the operation of the valves.

- (d.) Installation. All pipe laying and the making of all joints shall be done strictly in accordance with manufacturer's directions and in accordance with AWWA C600 "Installation of Ductile Iron Water Mains and Their Appurtenances". Mechanical joint fittings shall be spaced a minimum of 2 feet apart. The Contractor shall be responsible for achieving the water-tightness specified. The method of handling and of placing pipe in the trench shall not damage the pipe. Pipe interiors shall be kept clean and the exposed ends of the pipe in the trench shall be closed by suitable watertight bulkheads at all times when pipe-laying is not actually in progress. Abrupt changes in pipe alignment shall be accomplished by use of appropriate fittings as shown on the Drawings. Wherever long horizontal or vertical curves are shown on the drawings, the pipe may be laid to such curves by uniformly deflecting the pipe joints along the arc of the curve to form a smooth radius. Pipe deflection shall not exceed one-half the maximum allowable joint deflection recommended by the pipe manufacturer.

7. Add Article 561.08, which shall read as follows:

"561.08 Sequence of Work. Contractor shall submit a work plan indicating the sequence of water main installation not less than ten (10) calendar days prior to the planned start of work. The work plan must be approved by the Owner prior to installation of any water mains and shall conform to the following general sequences of installation listed below.

The Contractor shall inform the water main work location and notify the Water & Sewer Department 48 hours in advance of initiating these water main work to allow the Water & Sewer Department sufficient time to schedule the necessary valve closures. Only Water & Sewer Department personnel may operate existing valves in the distribution system.

The Contractor must be prepared to make this water main work in a timely fashion. A maximum of eight (8) hours or one (1) day will be allowed per shutdown to complete all the necessary water main work and connect to existing water mains. Because these water main work cannot be pressure tested or chlorinated, the Contractor must swab all pipe and fittings with a 2% hypochlorite solution **using a new, clean long-string mop** and the new section of main must be subjected to City pressure prior to backfilling.

Prior to backfilling the Contractor must install the appropriate sized end cap on the open end of the abandoned water main.

8. Basis of Payment

- a. Payment shall be made at the Contract unit price per LINEAR FOOT for DUCTILE IRON WATER MAIN 6", actually installed as specified, measured in place. These Contract unit prices shall be payment in full for all materials, labor, and equipment required for: site preparation, including removal, replacement and/or repair of fences and other site objects; trench excavation, including removal and disposal of existing pipes, structures, and excess excavated materials; protection, support and repair of damage to existing utilities; support of trench walls; shoring and bracing; dewatering of trenches; pipe; bends; fittings; restraining glands; polywrap, concrete encasement, PVC casing; thrust blocks; plugging existing water mains; joint materials; hydrostatic testing; disinfection; corporation stops used for disinfection; bedding; backfill placement, compaction and compaction testing; testing; correction of defects; and, other work required to complete the installation which is not included under other Payment Items.
- b. These Contract unit prices shall be payment in full for all materials, labor and equipment required for: site preparation, including removal, replacement and/or repair of fences and other site objects; trench excavation, including removal and disposal of existing pipes, structures, and excess excavated materials; protection, support and repair of damage to existing utilities; support of trench walls; shoring and bracing; dewatering of trenches; water system components including valves, fire hydrants, valve boxes, fittings, restraining glands, corporation stops, gaskets, concrete, bolts, and nuts; installation; backfill placement, compaction and compaction testing; hydrostatic test; disinfection; correction of defects; and other related work required to complete the installation which is not included under other Payment Items.
- c. These items shall not include the cost of pavement, sidewalk, driveway, and curb/gutter removal and disposal within the pay limits show on the Drawings. Roadway, sidewalk, driveway, and curb/gutter removal/ replacement within pay limits or as directed by the Engineer shall be paid for in accordance with the appropriate Payment Items.
- f. Roadway, sidewalk, driveway, and curb/gutter removal/replacement outside the pay limits shown on the Drawings required for completion of the Work or for Contractor's purposes shall be incidental to combined sewer, relief sewer, storm sewer, sanitary sewer, and watermain construction and no separate payment shall be made.

This work will be paid for at the contract unit price per lineal foot for DUCTILE IRON WATER MAIN 6", which price shall include all labor, equipment and materials necessary to perform said work.

MANHOLES, TYPE A, SPECIAL, of size specified, TYPE 1 FRAME, CLOSED LID

1. Delete Article 602.01 and replace it with the following:

"602.01 Description. This work, as shown on the Drawings, shall consist of:

- (a) Constructing new relief sewer manholes, including placing precast reinforced concrete sections together with flat slab tops (if required), transition sections, precast monolithic bases, frames and lids.

2. Add the following paragraph and subparagraphs to Article 602.02:

"In addition to the requirements of the Standard Specifications previously cited, manhole materials shall conform to the following additional requirements, which, in case of conflict, shall take precedence over the Standard Specifications:

- (a) **Materials for Constructing New Structures.** Precast reinforced concrete sections only.
- (b) Frames, covers and grates shall conform to Section 604 of Standard Specifications.
- (c) **Manholes.** Relief sewer manhole barrel sections shall be precast reinforced concrete conforming to the requirements of ASTM C-478. Pipe connections shall conform to ASTM C-923. No steps shall be installed in manholes. **All top sections for precast reinforced concrete manholes shall be precast reinforced concrete eccentric cones or slab tops of the same quality as the manhole barrel.** Except where otherwise indicated on the drawings, manholes shall have a precast monolithic base with a factory-installed bench and otherwise be in conformance with Illinois Department of Transportation Highway Standards MANHOLE TYPE A STANDARD 1527-9. Where indicated on the drawings, manholes supplied for 48" and larger pipes shall be of a "T"-pipe base-style fabrication. The pipeline portion of the base "T" section shall conform to ASTM C-76 and be of the same pipe class as connected sewer pipe. The riser section shall conform to ASTM C-478.
- (d) **Gasket Materials for Joints Between Precast Concrete Sections.** 100 percent butyl rubber rope-type gasket having a square cross-section of 1-inch nominal size conforming to the physical properties of Federal Specifications SS-S00210 as sold under the trade name E-Z Stik or equal.

Shop drawings for system components shall be submitted for approval as soon as possible, but not less than thirty (30) calendar days prior to the time when the components are intended to be installed."

3. Delete Article 602.03 in its entirety.
4. Delete Article 602.07 and replace it with the following:

"602.07 Precast Reinforced Concrete Sections. Base, barrel, cone and top sections shall be set as shown on the Drawings. The joints between precast concrete base sections, barrel sections, cone sections, and top slab sections in manholes, vaults, catch basins and inlets shall be sealed with two rings of 100 percent butyl gasket in rope form having a square cross-section of 1-inch nominal size. Adjusting rings and frames shall be set in full-width beds of cement mortar.

For valve vault reconstruction, the precast bottom slab should be placed directly on level, undisturbed earth. Sand may be used for final leveling of the bottom of the excavation, but thickness shall be kept to a practical minimum. In no case, shall the thickness of sand used for leveling exceed 1-inch. The purpose of requiring the base slab to be set on undisturbed earth and limiting the use of sand for leveling is to minimize post-construction settlement of the replacement valve vault and resulting damage to the existing water main. The Contractor shall bear the cost of repairing existing water mains damaged by vault settlement.

All lift holes on precast elements for manholes shall be completely filled with mortar and sealed with a bitumastic material."

5. Add the following to Article 602.10:
- (e) All manhole frame castings placed shall be set in full mortar beds composed of one part masonry cement to two parts sand by volume, based on dry materials, with no admixtures. Castings must be set accurately to the finished elevation so that no subsequent adjustment will be required. All frames will be adjusted to final grade by means of concrete adjusting rings. No brickwork to produce an adjustment ring will be accepted or permitted to adjust any structure to grade. Where manholes are located in roadways, paved alleys or paved driveways, casings shall be set to match the longitudinal slope and cross-slope of the pavement.
 - (f) Existing frames and lids must not be used as temporary covers during construction.”
6. Delete the second paragraph of Article 602.12 and replace it with the following:
- “The space between the sides of the excavation and the outer surfaces of the structures shall be filled with FA-6 material as shown on the Drawings.”
7. Add the following to Article 604.02:
- (A) Frames and grates furnished under this Contract shall be Gray Iron Castings conforming to the Specifications for Gray Iron Castings, ASTM A-48, Class 35. Circular lids for manholes and vaults shall have large (2 ½-inch nominal) pick holes. Circular lids for closing catch basins shall have large (2 ½-inch nominal) pick holes:
 - (B) Frames and grates on structures shall be as follows:
 - i. Manholes and vaults:
 - East Jordan Iron Works 1050 Frame and 1020 Extra Heavy Duty Cover with large (2½-inch nominal) pickholes or equal. Valve Vault covers shall be lettered “WATER”.
8. Basis of Payment
- a. This work will be paid for at the Contract unit price per EACH for MANHOLES, TYPE A, SPECIAL, *of the size specified*, TYPE 1 FRAME, CLOSED LID, measured in place. These Contract unit prices shall be payment in full for all materials, labor, and equipment required for: site preparation, including removal, replacement and/or repair of fences and other site objects; trench excavation, including removal and disposal of existing sewer pipes, structures, and excess excavated materials; protection, support and repair of damage to existing utilities; support of trench walls; shoring and bracing; dewatering of trenches; temporary pumping of combined sewer flows; new structures; bedding; sewer connection; frames, lids and other castings; flexible check valves; abandonment of existing sewers where called out on the Drawings, including filling and placement of required plugs; supply, placement, compaction, and compaction testing of material, infiltration/exfiltration and other testing/inspection; correction of defects; and, other related work required to complete the installation which is not included under other Payment Items.

- b. This item shall not include the cost of pavement, sidewalk, driveway, and curb/gutter removal and disposal within the pay limits shown on the Drawings. Roadway, sidewalk, driveway, and curb/gutter removal/ replacement within pay limits or as directed by the Engineer shall be paid for in accordance with the appropriate Pay Items.
- c. Roadway, sidewalk, driveway, and curb/gutter removal/replacement outside the pay limits shown on the Drawings required for completion of the Work or for Contractor's purposes shall be incidental to combined sewer, relief sewer, storm sewer, and sanitary sewer construction and no separate payment shall be made.

This work will be paid for at the contract unit price per lineal foot for MANHOLES, TYPE A, SPECIAL, *of size specified*, TYPE 1 FRAME, CLOSED LID, which price shall include all labor, equipment and materials necessary to perform said work.

VALVE VAULTS TO BE REMOVED

1. Add the following sentences to Article 605.01:

“This work shall also consist of all work necessary to remove or fill existing valve vaults so designated on the Drawings. The terms “fill” and “abandon” shall be interchangeable and shall consist of removing the upper portion of an existing structure, filling unused pipes, sealing pipe connections, and filling the remainder of the structure with materials as specified.”

2. Articles 605.03 and 605.04 shall apply with the following modifications:

The Contractor shall make his own investigation to determine the existence, nature and location of all sewers and appurtenances thereto within the limits of the improvement. The Contractor shall be held responsible for any damage to existing sewers. All pavement will be sawed to a full depth prior to any casting replacement/adjustment, structure removal, or filling operation. Connecting pipes shall be cut one joint from the existing structure to be removed/filled. Structures in private paved areas, parkways and other grassed areas shall be removed a minimum of 2-feet below final grade and structures in public streets shall be removed a minimum of 6-feet below final grade. Pipes connected to these structures shown to be abandoned and shall be filled with CLSM materials in accordance with Article 550.05. Remaining portions of existing structures may be filled with Case I trench backfill material in accordance with Section 208 or may be filled with CLSM material in accordance with Article 550.05, at Contractor's option. Structures shall be pumped out and cleaned of all mud and debris before the fill material is placed. The remainder of the excavation shall be backfilled in accordance with Section 208.

This work will be paid for at the contract unit price per each for VALVE VAULTS TO BE REMOVED, which price shall include all labor, equipment and materials necessary to perform said work.

VALVE BOXES TO BE REMOVED

This work shall be done in accordance with Article 605 of the "Standard Specifications" and includes all work required to complete the work. Work shall include completely removing the valve box to a depth of three feet below proposed elevations.

The excavation left behind may be filled with Case I trench backfill material in accordance with Section 208 or may be filled with CLSM material in accordance with Article 550.05, at Contractor's option. Structures shall be pumped out and cleaned of all mud and debris before the fill material is placed. The remainder of the excavation shall be backfilled in accordance with Section 208.

This work will be paid for at the contract unit price per each for VALVE VAULTS TO BE REMOVED, which price shall include all labor, equipment and materials necessary to perform said work.

PLUG AND ABANDON EXISTING PIPE

This work consists of completely filling all sewer laterals called out to be abandoned on the Drawings and in other locations as directed by the Engineer. This work shall include all materials, equipment and labor required for fill placement, placement of Class SI plugs at the ends of filled pipe sections, site clean-up, and all related work required to place fill which is not included under other Payment Items.

Delete the first paragraph of Article 550.05 and replace it with the following:

"Sewers designated on the Drawings to be abandoned shall be filled with Controlled Low-Strength Material (CLSM), unless otherwise specified by the Engineer. CLSM shall meet the following requirements:

- (a) Materials. CLSM shall consist of a mixture of portland cement, fly ash, fine aggregate, and water proportioned to provide a backfill material that is self-compacting and capable of being excavated with hand tools if necessary at a later date. All materials shall meet the following requirements:

Portland Cement, Type I	Section 1001
Water	Section 1002
Fine Aggregate (Natural Sand)	Section 1003.02
Fly Ash	Section 1010.03

- (b) Proportioning. Materials for CLSM shall be proportioned as follows:

Portland Cement	50 lbs.
Fly Ash	300 lbs. (if Type F) or 200 lbs. (if Type C)
Fine Aggregate (Saturated Surface Dry)	2900 lbs.
Water	45-65 gallons

These quantities will yield approximately one cubic yard of CLSM of the proper consistency. The flowability shall be observed by the Engineer and the water content adjusted within the specified limits to produce desired results. The CLSM shall be ready-mixed as specified in

Section 1020.11 of the Standard Specifications. Sufficient mixing capacity shall be provided to permit the CLSM to be placed without interruption. The mixer drum shall be completely emptied prior to the initial batch of CLSM to ensure that no additional cement fines are incorporated into the mix.

- (c) Placement. The CLSM shall be discharged directly from the truck into the space to be filled, or by other methods approved by the Engineer.”

This work will be paid for at the contract unit price per cubic yard actually placed with existing sewers to be abandoned for PLUG AND ABANDON EXISTING PIPE, which price shall include all labor, equipment and materials necessary to perform said work.

SANITARY SERVICE TO BE ADJUSTED AND
WATER SERVICE LINE TO BE ADJUSTED

1. Add the following subparagraphs to Article 563.01.

“(a) Adjusting and Reconnecting Sanitary Sewer Services. Work under the Payment Item “SANITARY SERVICE” shall consist of installation of a new tee or wye fitting at the proposed or existing mainline combined sewer, if necessary, and installation of new sanitary sewer service pipe from the combined sewer to the existing sanitary sewer service line 2 feet beyond the outer face of curb, as shown on the Drawings and/or as directed by the Engineer. Work under the Payment Item “SANITARY SERVICE TO BE ADJUSTED” shall consist of adjusting and reconnecting sanitary sewer services where required by the replacement of the existing combined sewer and/or installation of a new relief sewers, using new service pipe, fittings, and couplings as necessary.

(a) Water Service Line Disconnection and Replacement. Work under the Payment Item “WATER SERVICE LINE TO BE ADJUSTED” shall consist of rerouting the existing water service lines because of new sewer installation using new service pipe, fittings, and couplings as necessary. The Contractor shall make every reasonable effort to protect existing services. In some locations, however, it may be necessary to reroute services. Where approved by the Engineer, the Contractor may remove and reroute water services within trenchlines to provide adequate clearance from new facilities. The existing water services shall be cut at both sides of the trench for the proposed sewer pipe, and replaced by new copper service lines which shall be connected to the existing water lines adjacent to or above the proposed sewer pipe or as directed by the Engineer. No reconnection joints shall be located directly above or below the proposed sewer. The City system contains a range of service sizes and materials. The Contractor shall maintain a suitable inventory of proper service piping and fittings so as to minimize the time required for making re-connections.

2. Add the following subparagraphs to Article 563.02 - Materials.

“(a) Sewer Services. Any existing system components, including fittings, which are damaged by the Contractor due to his negligence, shall be replaced by him at his own expense. Material used for replacement shall be equal to that used for reconnection of existing sanitary building services in conformance with this Specification.

- (i.) Eight-inch diameter or smaller individual building services. Service pipe material shall be PVC or ductile iron pipe as specified in Section 550. Where service pipes run beneath other major utilities which are likely to place a structural load on the service pipe, such as beneath new relief sewers, ductile iron service pipe shall be used. At other locations, PVC service pipe shall be used.
 - (ii.) Services shall be connected to PVC or VCP mainline sewers by means of factory-made wye fittings of strengths equal to or greater than the mainline sewer. Tapping saddles may NOT be used for connection of services to PVC or VCP mainline sewers.
 - (iii.) Connectors for reconnection of service pipes to RCP mainline sewers 24-inch and larger shall be KOR-N-TEE or equal meeting ASTM C-923, sized to match the diameter and material of service.
- (b) Water Service Line Reconnection
- (i.) Service pipe and system components.
 - (ii.) **Copper Pipe.** Copper pipe shall be copper water tube, Type K, soft temper, for underground service, conforming to ASTM-B88 and ASTM-B251 of the inside diameter indicated on the Drawings. The pipe shall be marked with the manufacturer's name or trademark and a mark indicative of the type of pipe. The outside diameter of the pipe and minimum weight per foot of the pipe shall not be less than that listed in ASTM B251, Table 11
 - (iii.) **Stops and Fittings.** All corporation stops, curb stops, and connection couplings shall be fabricated of bronze alloy and shall be provided with outlets suitable for connections. All connections shall be made with flare-type couplings. Stops and fittings shall be as manufactured by Ford Co. or approved equal and shall be in accordance with AWWA Specifications. The curb stops shall be Minneapolis pattern (City of Evanston Standard). Corporation stops and curb stops shall be the non-restricting ball valve type.
 - (iv.) **Curb Boxes.** The curb boxes shall be cast iron Minneapolis pattern base, for rigid assembly, extension-type for 5'-6" bury or as required to make flush with the existing ground elevation. The boxes shall be complete with a lid marked 'WATER' and pentagon brass plug. Curb boxes shall be as manufactured by Mueller Co. or equal.
 - (v.) **Water Service Line Sleeve.** Sleeves for water service lines shall be Schedule 40 PVC pipe conforming to ASTM D-1785.

Shop drawings for system components shall be submitted for approval as soon as possible, but not less than thirty (30) calendar days prior to the time when the components are intended to be installed."

3. Add the following paragraph to Article 563.03:

"If the Contractor damages any sanitary service line not requiring adjustment, or any other underground structure or utility, he shall replace or repair it as required by the Engineer and no additional compensation will be allowed. When a sanitary sewer is to be adjusted, the Contractor shall remove it carefully to prevent damage to the existing pipe which will remain."

4. Add the following paragraph to Article 563.04:

“All openings into RCP sewer main shall be clean, machine-cored openings which will not damage the structural integrity of the pipe. Break-in connections are prohibited. Service connections shall be at least two 2 feet apart. All reconnection of new service pipes to existing service pipes shall be by means of an approved flexible coupling.”

5. Add the following paragraphs to Article 563.05:

“The Contractor shall take all precautions to keep the existing and new water service line clean from all debris and shall flush the new copper service line prior to reconnecting to the existing service. After each service is connected, the Contractor shall verify that the water service is supplying adequate water. The Contractor will be charged for any labor and materials used by the Water Department to correct any problems that arise due to Contractor's efforts.

All water services, which pass below or within 18 inches above combined, storm, sanitary, and relief sewers and services, shall be sleeved using a PVC casing pipe. The water service sleeve shall be of adequate diameter to accommodate the copper water service line and shall extend a minimum of 10 feet either side of the sewer. The ends of the PVC casing pipe shall be sealed with class SI concrete or as approved by Engineer.”

These items shall not include the cost of pavement, sidewalk, driveway, and curb/gutter removal and disposal within the pay limits shown on the Drawings. Roadway, sidewalk, driveway, and curb/gutter removal/ replacement within pay limits or as directed by the Engineer shall be paid for in accordance with the appropriate Pay Items.

Roadway, sidewalk, driveway, and curb/gutter removal/replacement outside the pay limits shown on the Drawings required for completion of the Work or for Contractor's purposes shall be incidental to combined sewer, relief sewer, storm sewer, and sanitary sewer construction and no separate payment shall be made.

This Work shall be paid for at the Contract unit price per EACH for WATER SERVICE LINE TO BE ADJUSTED, XX004762, up to 2 inches in diameter and SANITARY SERVICE TO BE ADJUSTED, EACH, XX004689 up to 8 inches in diameter; measured in the field. These Contract unit prices shall be payment in full for all materials, labor and equipment required for: site preparation; the cost of all joint materials; all connections; excavation; disposal of excess excavated materials; bedding; installation, including connections to existing systems; backfill placement, compaction and compaction testing; machine tapping of holes into pipe; system components, including wyes, tees, adapters, couplings, bends, concrete encasement, service line sleeves, pipes and tubing; testing; correction of defects; and other related work required to complete the installation which is not included under other Payment Items.

VIDEO TAPING OF SEWERS

Add Article 550.10 which shall read as follows:

Pre-construction and Post-construction Sub-surface Videotaping. Prior to commencing construction and following completion of construction, Contractor shall conduct a closed-circuit

internal television inspection of existing mainline combined, storm and sanitary sewers along the routes of the proposed relief sewer, combined sewer, and water mains. The purpose of the televising is to document the condition of the existing sewers prior to the start of the construction and any change in condition, which occurs as a result of construction. Following completion of sewer and water main installation, infiltration/exfiltration testing, backfill compaction testing, and deflection testing, but before final restoration and placing sewers in service, the Contractor shall conduct an internal television inspection of all new mainline sewers 48 inch in diameter or smaller. Inspection of new mainline sewers shall be performed in the presence of the Engineer.

The closed circuit camera and other televising equipment used shall be specifically designed for sewer line inspection. The camera shall be cable drawn. The camera shall be high-resolution color and shall be equipped with a lighted, pivoting head to view branch connections. For sewers 24-inches and larger, the camera shall be mounted on an appropriately sized skid so that the camera is centered in the sewer. Camera pull speed through the mainline pipe shall not exceed 30 feet per minute, the camera should be paused at every connection, and the camera panned to view the full interior of the connection. Crawler-type cameras shall not be used unless the sewer cannot be televised using cable drawn equipment, such as dead-end sewers or sewers so obstructed that pulling cables cannot be installed. If, during the internal inspection, the camera cannot pass through the entire sewer from a single set-up, the sewer internal inspection shall be completed using a reverse set-up from an adjacent manhole. If the sewer cannot be inspected over the remainder of its full length using the reverse set-up, Contractor shall notify the Engineer immediately while the camera remains in the sewer.

Contractor shall record the internal inspection on DVD format. Each DVD made shall be labeled "**City of Evanston Ridge Avenue Relief Sewer Improvements**" and shall be consecutively numbered. An index of each DVD shall be provided which includes DVD number, street/alley location (including names of end-blocks), beginning manhole number, ending manhole number, length of sewer, diameter of sewer, beginning and ending counter numbers. Contractor shall utilize the Owner's manhole numbering system (available through Engineer) to identify the existing sewer sections televised. For post-construction inspection of new sewers, the manhole numbering system shown on the Drawings, prefaced by "**Ridge Avenue Relief Sewer Improvements**" or other project designation, shall be utilized. The upstream manhole number, downstream manhole number and footage from beginning manhole shall be superimposed on the video image.

Contractor shall also prepare a written report for each section of sewer televised. Each report shall be labeled "**Ridge Avenue Relief Sewer Improvements**" and shall be coordinated with the DVD. For each sewer section televised, the report shall include: date of inspection, DVD reference number including counter readings, street location (including names of end-blocks), beginning manhole number, ending manhole number, length of sewer, diameter of sewer, and pipe material. The report shall note the locations (as a distance from the beginning manhole) the locations, orientations (o'clock position) and appropriate size parameters of: service and other connections; pipe defects, such as cracks, offsets, sags, deformations and break-in connections; water infiltration; mineral, grit, and grease build-ups; root intrusions; and, other irregularities.

Sub-surface video taping will be required before the start of construction and will also be required following completion of the construction (but prior to installation of the bituminous surface course).

The quantity shall not include pre-construction or post-construction videotaping for: sewer liner installation, new relief sewer installation, new storm sewer installation, and new combined sewer installation, all of which shall be considered incidental to the Contract.

The Contract unit price shall be payment in full for all materials, labor, and equipment required for: traffic control; cleaning of existing sewers (jetting); internal videotaping existing mainline combined sewers and storm sewers, including reverse set-ups, retrieving stuck televising equipment or repairing of sewers damaged by the televising effort; providing one copy of the videotapes (DVD format) and reports to the Owner and other related work required.

This work shall be paid for at the Contract unit price per LINEAR FOOT of sewer for VIDEO TAPING OF SEWERS of existing combined and storm sewers on streets in which tunnels, relief sewers, and watermains are proposed, at locations as specified, where not covered by other payment items, and at other locations as directed by Engineer.

CLASS B PATCHES (HIGH EARLY CONCRETE)

This work will be paid for at the Contract unit price per SQUARE YARD for CLASS B PATCHES (HIGH EARLY CONCRETE) of the thickness shown on the Drawings, measured in place. Payment shall be made for the quantity of patch actually installed within the pay limits shown on the Drawings or as directed by Engineer.

These Contract unit prices shall be payment in full for all materials, labor and equipment required for: saw-cutting (full depth), removal, and disposal of existing pavement and sub-base to proposed subgrade; final grading of aggregate base course, new paving materials and installation; furnishing and installing contraction joints, dowel bars, and expansion joints as required; finishing and additional reinforcement where required for concrete pavement; and related work required to complete the installation which is not included in other Payment Items.

For Class B Patches, the quantities for payment purposes shall be based on the maximum allowable width of the trench at the top of the subgrade. This payment width shall not exceed a maximum dimension as indicated by the "Pavement Removal and PCC Replacement Special 12-Inch Type B Patch" detail shown on the Drawings. The length of removal and replacement shall be measured along the centerline of the pipe over which removal and replacement is made. Length of removal and replacement for all patching shall include distances through manholes and other structures.

Additional pavement removal and replacement beyond the maximum pay widths shown on the Drawings required to complete the Work or for Contractor's purposes shall be considered incidental to combined sewer, relief sewer, storm sewer, sanitary sewer, and watermain construction and no separate payment shall be made. The Contractor is advised that specific liquidated damages apply for failure to restore permanent roadway pavements within specified time limits as indicated in the Agreement Section of these Specifications.

Additional aggregate base course outside the pay limits shown on the Drawings required to complete the Work or for Contractor's purposes shall be considered incidental to combined sewer, relief sewer, storm sewer, and sanitary sewer construction and no separate payment shall be made.

The placement of bituminous binder and surface courses within the pay limits shown on the Drawings over Class B patches, as specified in Section 406 and modified herein, shall not be included in the cost for Class B patches. The cost for bituminous binder and surface courses shall be paid for separately under the appropriate Payment Items.

Additional bituminous binder and surface courses outside the pay limits shown on the Drawings required to complete the Work or for Contractor's purposes shall be considered incidental to combined sewer, relief sewer, storm sewer, and sanitary sewer construction and no separate payment shall be made.

Class B Patches shall conform to Section 353 of the Standard Specifications. Existing pavement is to be removed and replaced in accordance with the Drawings. The quantification sub-types: I, II, III and IV shall not apply.

For Class B Patches, Early Strength Patching Mixture as specified in Article 1020.05(g)(1) shall be utilized.

This work will be paid for at the contract unit price per SQUARE YARD for CLASS B PATCHES (HIGH EARLY CONCRETE), which price shall include all labor, equipment and materials necessary to perform said work.

CONNECTING TO EXISTING MANHOLES BY CORE DRILLING

This work shall include all work required to core a new opening in existing manholes as indicated in the drawings. All new openings shall be neatly cored using suitable mechanical equipment. Partner saws or the similar types of equipment are not permitted. All new pipe installations shall be neatly mortared and sealed using a non-shrink material.

This work will be paid for at the contract unit price per each for CONNECTING TO EXISTING MANHOLES BY CORE DRILLING, which price shall include all labor, equipment and materials necessary to perform said work.

STORM SEWER, DUCTILE IRON PIPE, CLASS 52 of size specified

This work shall include the complete installation of 8" or 10" (as specified on the plans) Diameter Ductile Iron Pipe, Class 52 storm sewers as indicated on the Drawings or as directed by the Engineer. All work shall be completed in accordance with the "Standard Specifications" and in accordance with all other Special Provisions contained in this contract. Specifically, please refer to Special Provision, STORM SEWERS, RUBBER GASKET, CLASS A, of type and size specified for more detail regarding this pay item.

This work will be paid for at the contract unit price per lineal foot for STORM SEWERS, DUCTILE IRON PIPE, CLASS 52 of size specified, which price shall include all labor, equipment and materials necessary to perform said work.

TEMPORARY PAVEMENT

This work shall include the complete installation of a temporary 3" Hot-Mix Asphalt pavement over sewer trenches. Refer to Special Provision STORM SEWERS, RUBBER GASKET, CLASS A, *of type and size specified* for more detail regarding this pay item.

This work will be paid for at the contract unit price per ton for TEMPORARY PAVEMENT, which price shall include all labor, equipment and materials necessary to perform said work.

DRAINAGE RESTRICTOR ASSEMBLY

This work shall include all work required to completely remove all existing restrictors and/or drainage restrictors in existing catch basins and/or inlets located along Ridge Avenue. All of these units shall carefully be removed to ensure that they are not damaged. Some of these units are a single stainless steel unit. Restrictors that are just a single smaller pipe that is mortared into a larger sewer do not need to be salvaged. All of these units shall be stockpiled safely and delivered on a daily basis to the City Water Department located at 555 Lincoln Street in Evanston.

This work will be paid for at the contract unit price per each for DRAINAGE RESTRICTOR ASSEMBLY, which price shall include all labor, equipment and materials necessary to perform said work.

STORM SEWERS, TYPE 2 WYE 12" PIPE – 12" BRANCH

This work shall include all work required to furnish and completely install a pre-cast reinforced concrete wye section in order to connect a drainage structure to proposed relief sewer.

This work will be paid for at the contract unit price per each for STORM SEWERS, TYPE 2 WYE 12" PIPE – 12" BRANCH, which price shall include all labor, equipment and materials necessary to perform said work.

Ridge Avenue STP Improvement
Section No. 06-00241-00-PV
Job No.: C-91-145-07
Project No. HPP-0703(209)
Contract No.: 83968

CITY OF EVANSTON
STANDARD SPECIFICATIONS

SECTION 602 - CATCH BASIN, MANHOLE, INLET, DRAINAGE STRUCTURE AND VALVE VAULT CONSTRUCTION, ADJUSTMENT AND RECONSTRUCTION

1. Delete Article 602.01 and replace it with the following:

“602.01 Description. This work, as shown on the Drawings, shall consist of:

- (a) Removing and disposing of existing manholes, inlets and catch basins designated to be abandoned.
- (b) Replacing existing manholes, catch basins, inlets, and valve vaults.
- (c) Adjusting or partially reconstructing existing manholes, catch basins, inlets, or valve vault structures in order to rehabilitate the utility structure and/or establish the utility structures at final finished grades.
- (d) Constructing new valve vaults, including bases, barrel sections, transition cone sections or flat slab tops (if required), and required frames and lids.
- (e) Constructing new combined sewer and relief sewer manholes, catch basins and inlets, including placing precast reinforced concrete sections together with flat slab tops (if required), transition sections, precast monolithic bases, frames and lids.
- (f) Installing new frames/lids on existing utility structures to meet grades shown on the Drawings, to match existing grades, or as directed by Engineer.”

2. Add the following paragraph and subparagraphs to Article 602.02:

“In addition to the requirements of the Standard Specifications previously cited, manhole catch basin, inlet and valve vaults materials shall conform to the following additional requirements, which, in case of conflict, shall take precedence over the Standard Specifications:

- (a) **Materials for Reconstructing Existing Structures.** Concrete brick or precast reinforced concrete sections.
- (b) **Materials for Constructing New Structures.** Precast reinforced concrete sections only.
- (c) **Final Grade Adjustments for Structures.** Tapered precast reinforced concrete adjustment rings shall be used for final grade adjustment of existing and new structures. Adjustment rings shall be laid on a full bed of mortar. A minimum of one and a maximum of two rings shall be used for final grade adjustment at each structure. The total height of final adjustment shall not exceed 11-inches for any structure. The use of brick for final structure adjustment is not permitted.
- (d) Frames, covers and grates shall conform to Section 604.

- (e) **Inlets.** Inlets shall be precast reinforced concrete conforming to INLET, TYPE A - STANDARD 1683-4 with the following exceptions: 1) Instead of a 16" depth, the depth shall be 34" unless otherwise specified on the drawings. 2) Instead of the 3" Sand Cushion, a minimum 6" deep granular material (CA-11) base will be required.
- (f) **Catch Basins.** Type A catch basins shall be precast reinforced concrete conforming to CATCH BASIN TYPE A - STANDARD 1514-9 with the following exceptions: 1) Instead of a 34" sump, a 48" sump will be required. 2) Instead of the 3" sand cushion, a minimum 6" deep granular material (CA-11) base will be required. Type C catch basins shall be as shown on the Drawings, with backfill as shown for Type A catch basins.
- (g) **Valve Vaults.** Valve vault sections shall be precast reinforced concrete conforming to ASTM C-478. All top sections for precast reinforced concrete valve vaults shall be precast reinforced concrete concentric cones or slab tops of the same quality as the barrel of the vault. Valve vaults shall be supplied with factory-formed openings to accommodate the various size water mains such that a minimum 12 inches of clearance between the top of the vault base and bottom of the main can be provided. Bases for replacement vaults on existing water mains shall be separate, one-piece precast units having a minimum thickness of 6 inches. No slab or split bottom shall be used. **Valve vaults for new valves shall be 4-foot diameter.**
- (h) **Manholes.** Storm, sanitary, combined, and relief sewer manhole barrel sections shall be precast reinforced concrete conforming to the requirements of ASTM C-478. Pipe connections shall conform to ASTM C-923. No steps shall be installed in manholes. **All top sections for precast reinforced concrete manholes shall be precast reinforced concrete eccentric cones or slab tops of the same quality as the manhole barrel.** Except where otherwise indicated on the drawings, manholes shall have a precast monolithic base with a factory-installed bench and otherwise be in conformance with Illinois Department of Transportation Highway Standards MANHOLE TYPE A STANDARD 1527-9. Where indicated on the drawings, manholes supplied for 48" and larger pipes shall be of a "T"-pipe base-style fabrication. The pipeline portion of the base "T" section shall conform to ASTM C-76 and be of the same pipe class as connected sewer pipe. The riser section shall conform to ASTM C-478.
- (i) **Gasket Materials for Joints Between Precast Concrete Sections.** 100 percent butyl rubber rope-type gasket having a square cross-section of 1-inch nominal size conforming to the physical properties of Federal Specifications SS-S00210 as sold under the trade name E-Z Stik or equal.

Shop drawings for system components shall be submitted for approval as soon as possible, but not less than thirty (30) calendar days prior to the time when the components are intended to be installed."

3. Delete Article 602.03 in its entirety.

4. Delete Article 602.07 and replace it with the following:

“602.07 Precast Reinforced Concrete Sections. Base, barrel, cone and top sections shall be set as shown on the Drawings. The joints between precast concrete base sections, barrel sections, cone sections, and top slab sections in manholes, vaults, catch basins and inlets shall be sealed with two rings of 100 percent butyl gasket in rope form having a square cross-section of 1-inch nominal size. Adjusting rings and frames shall be set in full-width beds of cement mortar.

For valve vault reconstruction, the precast bottom slab should be placed directly on level, undisturbed earth. Sand may be used for final leveling of the bottom of the excavation, but thickness shall be kept to a practical minimum. In no case, shall the thickness of sand used for leveling exceed 1-inch. The purpose of requiring the base slab to be set on undisturbed earth and limiting the use of sand for leveling is to minimize post-construction settlement of the replacement valve vault and resulting damage to the existing water main. The Contractor shall bear the cost of repairing existing water mains damaged by vault settlement.

All lift holes on precast elements for manholes, vaults, catch basins, and inlets shall be completely filled with mortar and sealed with a bitumastic material.”

5. Add the following to Article 602.10:

“(d) All existing frames, lids, grates and inlets reclaimed during construction are the property of the City of Evanston. These frames lids and grates shall be moved to a suitable place on the job for storage and made available for removal by the Owner.

(e) All manhole frame castings placed shall be set in full mortar beds composed of one part masonry cement to two parts sand by volume, based on dry materials, with no admixtures. Castings must be set accurately to the finished elevation so that no subsequent adjustment will be required. All frames will be adjusted to final grade by means of concrete adjusting rings. No brickwork to produce an adjustment ring will be accepted or permitted to adjust any structure to grade. Where manholes are located in roadways, paved alleys or paved driveways, casings shall be set to match the longitudinal slope and cross-slope of the pavement.

(f) Existing frames and lids must not be used as temporary covers during construction.”

6. Delete the second paragraph of Article 602.13 and replace it with the following:

“The space between the sides of the excavation and the outer surfaces of the structures shall be filled with CA-11 material as shown on the Drawings.”

SECTION 603 - ADJUSTING FRAMES AND GRATES OF DRAINAGE AND UTILITY STRUCTURES

1. Delete Article 603.08 and replace it with the following:

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“603.08 Adjusting Rings. Drainage and utility structure frames shall be adjusted to grade by removal of the frame and adjustment from the structure, preparing the top of the structure to receive the new adjustment, installing the proper height precast concrete adjusting rings and reinstalling the frame, all in accordance with applicable provisions of Section 602. The use of cast iron adjusting rings is prohibited.”

SECTION 604 - FRAMES AND GRATES

1. Add the following to Article 604.02:

- (f) Frames and grates furnished under this Contract shall be Gray Iron Castings conforming to the Specifications for Gray Iron Castings, ASTM A-48, Class 35. Circular lids for manholes and vaults shall have large (2 ½-inch nominal) pick holes. Circular lids for closing catch basins shall have large (2 ½-inch nominal) pick holes:
- (g) Frames and grates on structures shall be as follows:
 - i. Existing inlets and catch basins; New catch basins and inlets on Combined Sewer system:
 - East Jordan Iron Works 1050, Type M1 Grate with large (2½-inch nominal) pick holes or equal.
 - ii. New catch basins and type A inlets for Relief Sewer work:
 - East Jordan Iron Works 7045, Type M1 Grate or equal.
 - iii. Manholes and vaults:
 - East Jordan Iron Works 1050 Frame and 1020 Extra Heavy Duty Cover with large (2½-inch nominal) pickholes or equal. Valve Vault covers shall be lettered “WATER”.
 - iv. High capacity inlet
 - East Jordan Iron Works 7035 Type M6 Grate, T4 Back
 - v. New frames and grates may be requested by the Engineer during adjustment of existing structures.”

SECTION 605 - REMOVING OR FILLING (ABANDONING) EXISTING MANHOLES, CATCH BASINS AND INLETS

1. Add the following sentences to Article 605.01:

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“This work shall also consist of all work necessary to remove or fill existing valve vaults so designated on the Drawings. The terms “fill” and “abandon” shall be interchangeable and shall consist of removing the upper portion of an existing structure, filling unused pipes, sealing pipe connections, and filling the remainder of the structure with materials as specified.”

2. Articles 605.03 and 605.04 shall apply with the following modifications:

The Contractor shall make his own investigation to determine the existence, nature and location of all sewers and appurtenances thereto within the limits of the improvement. The Contractor shall be held responsible for any damage to existing sewers. All pavement will be sawed to a full depth prior to any casting replacement/adjustment, structure removal, or filling operation. Connecting pipes shall be cut one joint from the existing structure to be removed/filled. Structures in private paved areas, parkways and other grassed areas shall be removed a minimum of 2-feet below final grade and structures in public streets shall be removed a minimum of 6-feet below final grade. Pipes connected to these structures shown to be abandoned and shall be filled with CLSM materials in accordance with Article 550.05. Remaining portions of existing structures may be filled with Case I trench backfill material in accordance with Section 208 or may be filled with CLSM material in accordance with Article 550.05, at Contractor's option. Structures shall be pumped out and cleaned of all mud and debris before the fill material is placed. The remainder of the excavation shall be backfilled in accordance with Section 208.

**CITY OF EVANSTON
SUBMITTALS**

RECORD DRAWINGS

A. The Contractor shall keep one record copy of all Contract Documents, reference documents, and all submittals at the site in good order and annotated to show all revisions made during the construction process. Such annotations shall be kept updated on a single set of Contract Drawings and will be inspected monthly. Failure to maintain current record drawings will be cause to delay progress payments. Record drawings shall be available to the Engineer at all times during the life of the Contract.

B. All drawings and Contractor's submittals shall be made a part of the record drawings and shall include the following:

Contract Drawings - Contractor shall annotate or redraft, as required, to show all revisions, substitutions, variations, omissions and discrepancies made or discovered during construction concerning location and depth of utilities, piping, ductbanks, conduits, manholes, pumps, valves, vaults and other equipment. Revisions shall be made and shown on all drawing views with actual dimensions established to permanent points.

Contractor's Drawings - Same as above. Include, for example, piping layouts; and duct layouts. Sections and details shall be added as required, for clarity. Prior to preliminary inspection, furnish a reproducible set of the record drawings. At the completion of the Contract and before final payment is made, furnish the Engineer one set of reproducible of the finally approved record drawings reflecting all revisions herein described.

C. The Contractor shall keep a complete to-date record of the actual construction of all work called for under the Plans and Specifications of this contract and as ordered by the Engineer.

Upon completion of this contract, the Contractor shall furnish to the Engineer record contract plan drawings where changes from the original plans have occurred.

The Engineer will make available to the Contractor one set of full size prints of the original contract drawings on which the Contractor shall make the necessary changes to indicate the major changes. The changes shall be made with opaque Higgins carmine red ink, or approved equal, using standard drafting procedures.

Record drawings on mylar will be prepared by the Engineer based on the changes indicated by the Contractor. All record drawings on mylar for this contract shall be signed by the Contractor certifying to its major corrections.

PAYMENT

No separate payment will be made for the work in this section; all the costs of such work shall be considered incidental to the items of work to which they pertain.

END OF SECTION

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**CITY OF EVANSTON
ENVIRONMENTAL CONTROL**

GENERAL

1.01. ENVIRONMENTAL PROTECTION

The Contractor shall be responsible for furnishing all necessary items for fulfilling the Work described herein for environmental protection including prevention and control of erosion and sedimentation that results directly or indirectly from the Project.

1.02. PREVENTION OF WATER POLLUTION

The Contractor shall take all such precautions in the conduct of his operations as may be necessary to avoid contaminating the water in adjacent watercourses or water storage areas including wells whether natural or man-made.

All earthwork, moving of equipment, water control of excavations, and other operations likely to create silting, shall be conducted so as to minimize pollution of watercourses or water storage areas.

Water used during the Contract Work, which has become contaminated with oil, bitumens, harmful or objectionable chemicals, sewage or other pollutants, shall be disposed of so as to avoid affecting all nearby waters and lands. Under no circumstances shall the Contractor discharge pollutants into any watercourse or water storage area. Do not allow water used in aggregate processing, concrete curing, foundation and concrete lift cleanup or any other waste to directly enter a stream untreated. When water from adjacent natural sources is used in the Contract Work, intake methods shall be such as to avoid contaminating the source of supply or becoming a source of erosion or sedimentation.

1.03. NOISE AND AIR POLLUTION CONTROL

Conduct operations so as not to violate any applicable ordinances, regulations, rules and laws in effect in the area at the date of bid opening pertaining to noise and air pollution and to conform to all provisions in effect at the date of bid opening as set forth in the Rules and Regulations Governing the Control of Air Pollution and noise pollution in the State of Illinois.

1.04. PLANT PEST CONTROL

All soil moving or handling equipment that has operated in or will operate in regulated areas shall be subject to plant quarantine regulations. In general, these regulations require the thorough cleaning of soil from equipment before such equipment is moved from regulated areas to uninfested areas. Complete information may be obtained from the regional office of the Plant Pest Control Division of the United States Department of Agriculture.

1.05. PRESERVATION OF NATURAL RESOURCES

All construction operations, contract work, clean up and the condition of the adjacent terrain upon completion of the Work shall fully comply with all applicable regulations and laws concerning the preservation of natural resources.

1.06. DUST CONTROL

Throughout the entire construction period, maintain dust control by use of water sprinklers or chemical dust control binder as may be approved by the Engineer.

PAYMENT

No separate payment will be made for the work in this Section; all the costs of such work shall be considered incidental to the items of work to which they pertain.

END OF SECTION

CITY OF EVANSTON PARKWAY TREE PROTECTION

Prospective contractors are advised that it is the express intent of the City of Evanston to minimize trimming of trees in the work corridors and to vigorously protect the quality of the urban forest. The equipment and methods used to perform any and all portions of the work must be the size and nature that results in the least disruption to the existing environment. The City of Evanston reserves the right to limit the size of the equipment used on the project.

The contractor shall at all times demonstrate to the satisfaction of the City of Evanston that suitable precautions and due diligence are being observed to protect the natural and improved features of the area. Special and continuing attention will be paid to the maintenance of tree protection fencing and the appropriate observance of tree protection areas as delineated by the fencing.

To insure compliance with the City of Evanston's intent to minimize area disturbances, the following procedures and actions will be followed: When the Engineer determines that a deficiency exists, the Contractor shall be notified. If the contractor fails to rectify the deficiency immediately, the Engineer will impose a daily monetary deduction for each 24-hour period (or portion thereof) the deficiency exists. This time period will begin with the time of notification to the Contractor and end with the Engineer's acceptance of the corrections. The cost of the daily deduction will be \$250 per occurrence per calendar day. In addition, the Contractor will be liable and responsible for any and all corrective and remedial actions required to restore the area or item to comparable pre-project conditions as well as any additional fines and fees as stated in the tree protection requirements in these specifications.

Care of Existing Plant Material. If construction is to occur within the root zone of existing plant material, root pruning and special plant care will be required, as hereinafter specified. All pruning shall be performed by a professional arborist (someone whose principal occupation is the care and maintenance of trees).

The Contractor shall be responsible for taking measures to minimize damage to tree limbs, tree trunks, and tree roots at each work site. All such measures shall be included in the contract price for other work except that payment will be made for **Tree Root Pruning, Tree Protection and Preservation, Tree Trunk Protection, and Tree Pruning** as separate pay items.

A. Tree Root Pruning:

Tree root pruning shall be used to protect all trees within the public right-of-way of the project limits or as directed by the Engineer.

1. Whenever the proposed excavation falls within the drip-line of a tree, the contractor shall:
 - a. Root prune 6-inches behind and parallel to the proposed edge of trench a neat, clean vertical cut to a minimum depth directed by the City Arborist through all the affected tree roots.
 - b. Root prune to a maximum width of 4 inches using a "Vermeer" wheel

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matching the following criteria. The root pruner wheel shall be 60" diameter (188" circumference) carrying 28 pair (56 total) stump cutter teeth with tooth spacing at 6.7" on center. The cutting depth shall be 24" and shall utilize a 65hp tractor. Trenching machines will not be permitted.

- c. Exercise care not to cut any existing utilities.
 - d. If during construction it becomes evident that additional tree roots will require root pruning, the City Arborist and the Contractor shall have the root pruning sub-contractor return to the site to properly root prune the tree at the location directed by the City Arborist. The contractor will be paid for the additional root pruning as described below; however, no additional compensation will be made for remobilization to the construction site.
 - e. For locations where root pruning is performed for the purpose of curb and gutter removal and replacement, the contractor shall root prune 6-inches behind the curbing so as to neatly cut the tree roots.
 - f. Depth of cut shall be 12 inches for curb removal and replacement and 24 inches for structural work. Any roots encountered at a greater depth shall be neatly saw-cut at no additional cost.
 - g. The Engineer or City Arborist will mark locations where earth saw cutting of tree roots is required in the field.
2. All root pruning cuts shall be immediately backfilled with material side cast from the earth-sawing procedure, so that the ground surface is even and no tripping potential exists.
 3. All root pruning work is to be performed through the services of a certified arborist to be approved by the City Arborist.

Tree Root Pruning will be paid for at the contract unit price per foot for **Tree Root Pruning**, which price shall be payment for all labor, materials, and equipment.

B. Tree Protection and Preservation:

1. The Contractor shall erect a temporary fence around all trees within the construction area to establish a "tree protection zone" before any work begins or any material is delivered to the jobsite. No work is to be performed (other than root pruning), materials stored, or vehicles driven or parked within the "tree protection zone" at any time during the course of construction.
2. The exact location and establishment of the "tree protection zone" fence shall be approved by the City Arborist prior to setting the fence. The fence shall be

48 inches high, plastic poly-type or any other type of highly visible barrier in an open-weave type pattern with large openings. The type, color and pattern of the fence shall be approved by the Engineer prior to erection. This fence shall be properly maintained in an upright manner and shall remain up until final restoration, unless the Engineer directs removal otherwise. Tree fence shall be supported using T-Post style fence posts with a maximum of 8' spacing. T-posts must be at least six feet in length, two feet of which must be set in the ground. The fence shall be attached to posts and secured with a minimum of three nylon locking ties per post. **Utilizing re-bar as a fence post will not be permitted.**

3. The fence shall be installed 18" behind and parallel to the curb and between the curb and sidewalk. Fence shall be erected on a minimum of three sides with the fourth sidewalk side being optional. Fence shall be installed at the drip-line of the tree or as listed in the following guidelines:
 - a. Establish the diameter of the tree at a point four and a half feet above the ground, (referred to as diameter breast height or DBH)
 - i.. Trees with diameters 10 inches and under require root zone protection a minimum of five feet in all directions from the center of the tree.
 - ii. Trees 10 to 19 inches in diameter shall have a minimum root zone protection of 10 feet in all directions from the center of the tree.
 - iii. Trees greater than 19 inches in diameter shall have a minimum root zone protection of 15 feet in all directions from the center of the tree.
4. Parking or maneuvering of machinery, stockpiling of materials or any other use will not be allowed upon unpaved areas within 3 m (10 ft) of the root protection zone of trees or plants designated to be protected.
5. Construction area is defined as all areas within 20 feet each side of water or sewer main location.
6. All work within the "tree protection zone" shall have the Engineer's prior approval. All slopes and other areas not re-graded should be avoided so that unnecessary damage is not done to the existing turf, tree root system or ground cover.
7. The grade within the "tree protection zone" shall not be changed unless approved by the Engineer prior to making said changes or performing the work.

Tree Protection and Preservation will be paid for at the contract unit price per each for **Tree Protection and Preservation**, which price shall include furnishing, installing, maintaining, and removal.

C. Tree Trunk Protection:

When sewer or water improvements are required within the "root protection zone", tree trunk protection will be required.

1. The Contractor shall provide 50 mm by 200 mm by 2.4 m (2 in. by 8 in. by 8 ft) boards banded continuously around each trunk to prevent scarring of trees shown on the plans or designated by the Engineer. For multi-stem trees, saplings, and shrubs to be protected within the area of construction, temporary fencing may be used for trunk protection.

D. Tree Pruning:

1. Tree pruning shall consist of pruning branches, for aesthetic and structural enhancement, of existing trees as shown on the plans or as directed by the Engineer. The National Arborist Association's Pruning Standards for Shade Trees Class II - Standard Pruning specifications shall be followed. All branch pruning to American elms and Oak trees shall be done between October 15 and April 15, when the trees are dormant.
 - a. Underpruning to provide clearance over the street will be allowed up to 14 feet above the pavement. If additional clearance is needed a request in writing shall be submitted to the City Arborist.
 - b. Any special handling requirements associated with the disposal of existing Ash trees, limbs or braches shall be considered incidental to the contract.

CITY OF EVANSTON MANHOLE OR VALVE VAULT LINER

PART 1.0 - GENERAL

The Contractor shall provide all labor, material and equipment required for rehabilitation of manholes from ground surface to sewer invert. The work to be performed shall include rehabilitation of all manholes under the contract as shown on the plans and specified herein.

PART 2.0 – WORK INCLUDED

The rehabilitation of manholes shall be performed to the lines, grades and dimensions as shown on the plans. Included in this work are:

- Cleaning of structure prior to rehabilitation
- Cleaning and surface preparation of existing concrete and brickwork
- Removal and replacement of existing manhole frames and covers at locations indicated on the plans.
- Removal and replacement of manhole steps (as required).

And all other incidental work necessary for the rehabilitation of the manholes as specified herein, and as shown on the Plans.

PART 3.0 – CONTRACTOR QUALIFICATIONS

The Contractor must meet the qualification requirement below:

- Applicators of structural lining systems must be certified by the Manufacturer in handling, mixing and applying the Manufacturer's product. By certified, the manufacturer must certify that 1) the manufacturer has properly trained and / or observed the applicator's applications of the manufacturer's project specifically being used on the project and is satisfied that the applicator is capable of completing a successful applications, 2) the manufacturer has inspected the applicator's equipment to confirm it is the proper equipment for applying the specific material to be used on the project and will apply at the proper rate, mixture, etc. and 3) the manufacturer has confirmed that the applicator has the properly trained and experienced personnel specifically with the product to be applied on this project, including at least the foreman/forewoman and nozzle man/woman.

PART 4.0 – MATERIALS

The Material shall meet the qualification requirement below:

- Concrete and Cement Stabilized Sand: All concrete must conform to Class SI.
- Rapid Setting Liquid Accelerator: Liquid accelerator shall be Anit-Hydro as manufactured by Anti-Hydro Co., 269 Badger Avenue, Newark, NJ; Ipanex-R as manufactured by IPA Systems, Inc. 2745 N. Amber Street, Philadelphia, PA; or Engineer approved equal.
- Mortar: Mortar must be composed of one part Portland Cement, one part masonry cement (or ¼ part hydrated lime), and masonry sand equal to 2 ½ to 3 times the sum of the volumes of the cements and lime used. The sand must meet the requirements for “fine aggregate” per the IDOT state specifications.
- Grout: Unless otherwise specified, all grouting must be done with non-shrinking grout. Grouting of the manholes may include ring and seal areas, cone section, wall, pipe seals and penetrations, and/or bench and trough areas. Other areas of the manhole to be grouted shall be designated by the Engineer.
- Non-shrinking Grout: Non-shrinking grout must be furnished factory premixed so only water is added at the job site. Grout must be mixed in a mechanical mixer. No more water shall be used than is necessary to produce a flowable grout. All proportioning and mixing of the components must be in accordance with manufacturer’s recommendations.
- Infiltration Control Products:
 1. Patching material : A quick setting, corrosion-resistant, cementitious material must be used as a patching material and must be mixed and applied according to the manufacturer’s recommendations and must have the following minimum requirements:
 - a. Compressive Strength ASTM C109 1400psi, 6 hours
 - b. Bond Strength ASTM C592 Minimum 145 psi
 - c. Cement ASTM C150 Sulfide resistant
 - d. Applied Density 105 pcf (±5 pcf)
 - e. Shrinkage ASTM C596 0% and 90% R.H.Product must be Strong-Seal QSR as manufactured and/or supplied by Strong-Seal, or Engineer approved equal.
- Manhole walls and bench coating materials
 1. Structural / Moderate Sulfide Resistant Coating for Rehabilitation: Strong-Seal Systems High Performance, as manufactured by Strong Seal Systems, Pine Bluff, AR; Quadex Aluminaliner as manufactured by LaFarge Calcium Aluminates, Chesapeake, VA or Engineer approved equal: 1” minimum thickness. All bids must be based on and the contractor must provide a 1” minimum thickness for these products.

2. Non-structural / High Sulfide resistant coating for rehabilitation: SewerGard #799 High Modulus, High Build Epoxy, 100 mil. Minimum thickness, to be applied in one coat as manufactured by Thermal Chem, Franklin Park, IL; Raven 405 High Build Epoxy Lining System, 100 mil. Minimum thickness, to be applied in two coats as manufactured by Raven Chemicals, Tulsa, OK; Spraywall Process, 100 mil. thickness, to be applied in two coats as manufactured by Sprayroq, Birmingham, AL, or Engineer approved equal.

PART 5.0 – LINING DESIGN

The liner shall be designed to withstand the hydraulic load generated by ground water. The ground water table shall be assumed to extend to ground surface. Any material selected for the liner shall be able to withstand corrosive environment created by hydrogen sulfide. The lining thickness shall be uniform for the entire depth of the manhole and shall have a maximum SDR of 100.

The liner material shall be either of the following:

- Spray Wall, Sprayroq: The liner thickness shall be calculated using Equation X1.1 of ASTM Standard Specifications F1216. The enhancement factor, K, and Poisson Ration shall be taken a 7 and 0.3, respectively. The minimum value of ovality shall be 7.5%. The physical properties and design parameters used shall be based upon tests conducted by independent third party testing laboratories. The creep retention factor shall be determined by a 10,000 hour test. The contractor shall prepare the design calculations for the wall thickness and submit to the Engineer for approval.
- Quadex with AquataPoxy A-6 (with A-10 Primer) or PPC Polymorphic resin coating; or equal. The thickness of the Quadex liner shall be 1 inch. The thickness of Aquatapoxy or PPC coating shall be 80 mils.
- Permacast MS 10,000 High Strength Mortar with Cor+Gard: The thickness of the Permacast MS 10,000 mortar liner shall be 1 inch. The lining shall be provided with a 80 mil thick coating of Cor+Gard.
- Or equal

The Contractor shall furnish, prior to use of the materials, a satisfactory written certification of his compliance with the standards for all materials. The certification shall include third-party testing of the material for short term and long term physical properties.

PART 6.0 – CLEANING OF MANHOLE OR VALVE VAULT PRIOR TO REHABILITATION

- The type of equipment and method to be used must be based on the condition of the manhole or valve vault at the time work commences. The selection of equipment must produce the results specified and will be at the Contractor's discretion, subject to the approval of the City.

- Whenever a manhole or valve vault is found to have debris, vacuum machines will be used to remove the major portion of the material before hydraulic equipment is used for final cleaning. The debris removed from the manhole or valve vault shall be disposed of by the Contractor. Other types of cleaning may be utilized by the Contractor if they are capable of producing the specified results and are approved by the City.
- The cleaning equipment and material must be capable of removing all dirt, oil, grease, rocks, bricks and other deleterious materials and obstructions from the manholes and valve vaults.
- The Contractor must cover all drain openings and appurtenances (i.e. restrictors and orifices).

PART 7.0 – SURFACE PREPARATION

Proper surface preparation procedures must be followed to ensure adequate bond strength to any surface to be coated. Surface shall be prepared in accordance with ASTM D4258 Standard Practice for Surface Cleaning Concrete for Coating:

- Applicator must inspect all surfaces specified to receive a coating prior to surface preparation. Applicator must notify the City of any noticeable disparities in the surfaces that may interfere with the proper preparation or application of the repair mortar and /or coating(s).
- All concrete that is not sound or has been damaged by chemical exposure shall be removed to a sound concrete surface.
- All contaminants, including; oils, grease, incompatible and/or damaged existing coatings, waxes, form release, curing compounds, efflorescence, sealers, salts or other contaminants, must be completely removed prior to any surface applications. Contaminants removal(s) and surface preparation method(s) must be based upon the conditions of the substrate and the requirements of the coating to be applied.
- Surfaces to receive coating must be cleaned and abraded to produce a sound concrete surface with adequate profile and porosity to provide a strong bond between the protective coating and substrate.
- Pressure water cleaning with a minimum of 5,000 psi at 5 gpm, using a rotating pencil nozzle, shall be used to clean and free all foreign material within the manhole.
- Detergent or steam cleaning must be used when grease and/or oils are present. All residues and materials resulting from the process of cleaning the manhole must be removed from the manhole prior to application of coating(s).
- Active water infiltration must be stopped by using a cementitious water plug or hydroactive grout that is compatible with the substrate and specified coating system.

- Prepared surfaces must be tested after cleaning, but prior to application of the coating, if a specified pH or moisture content of the concrete is required according to manufacturer's recommendations.
- The cleaned surface of each manhole to be coated with Non-Structural / High Sulfid resistant coating must be tested for moisture content in accordance with ASTM D4263 Test Method and the moisture content must be within the parameters identified in the Manufacturer's technical data sheets prior to applying coatings.
- Surfaces cleaned with detergents or nonsolvent-emulsifying agents must be tested for pH in accordance with ASTM D4262 Test Method.

PART 8.0 – INSTALLATION

The lining shall be applied as per manufacture's recommendation. There shall be no visible sags or ripples on the coating. During application of the lining a wet film thickness gage shall be used to ensure uniform thickness. After applications of the lining, the coating shall be applied.

The coating shall also be checked visually for blisters and bug holes. All defect detected in the coating shall be repaired as per manufacturer's recommendations.

The Contractor shall develop a procedure for bonding the liner with the cured-in-place pipe line.

PART 9.0 – COATING APPLICATION

- Application procedures must conform to the recommendations of the coating manufacturer, including material handling, mixing, and environmental controls during applications, and safety and equipment.
- The coating application equipment must be specifically designed to accurately apply the specified coating material and must be regularly maintained and in proper working order.
- The Certified Applicator must conform to the Contractor Qualifications.
- The coating must be applied to a minimum thickness as specified herein.
- The manhole invert must not be coated to maintain the hydraulic flow line through the manhole.
- Temperature of the surface to be coated must be maintained between 40 deg F and 120 deg F during application, or otherwise required by the coating manufacturer. Prior to and during application, care should be taken to avoid exposure of direct sunlight or other intense heat source to the structure being coated. Where varying surface temperatures do exist, care should be taken to apply the coating when the temperature is falling versus rising (later afternoon into evening versus early morning into afternoon).

PART 10.0 – WARRANTY

- Contractor must warrant all Work within a work order against defects in materials and workmanship for a period of one year, unless otherwise noted from the date of final acceptance of all Work contained within that work order.
- Applicator must, within 30 calendar days after receipt of written notice thereof, repair defects in materials or workmanship which may develop during said one (1) year period, and any damage to other work caused by such defects or the repairing of same, at its own expense and without cost to the Owner.

PART 4 - PAYMENT:

This work will be paid for at the Contract unit price per EACH for MANHOLES TO BE LINED, as shown on the plans. The Contract unit price shall be payment in full for all materials, labor, and equipment required for lining the manholes.

END OF SECTION

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISION
FOR
COOPERATION WITH UTILITIES

Effective: January 1, 1999
Revised: January 1, 2007

All references to Sections or Articles in this specification shall be construed to mean specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

Replace Article 105.07 of the Standard Specifications with the following:

"105.07 Cooperation with Utilities. The adjustment of utilities consists of the relocation, removal, replacement, rearrangements, reconstruction, improvement, disconnection, connection, shifting, new installation or altering of an existing utility facility in any manner.

When the plans or special provisions include information pertaining to the location of underground utility facilities, such information represents only the opinion of the Department as to the location of such utilities and is only included for the convenience of the bidder. The Department assumes no responsibility in respect to the sufficiency or the accuracy of the information shown on the plans relative to the location of the underground utility facilities.

Utilities which are to be adjusted shall be adjusted by the utility owner or the owner's representative or by the Contractor as a contract item. Generally, arrangements for adjusting existing utilities will be made by the Department prior to project construction; however, utilities will not necessarily be adjusted in advance of project construction and, in some cases, utilities will not be removed from the proposed construction limits. When utility adjustments must be performed in conjunction with construction, the utility adjustment work will be shown on the plans and/or covered by Special Provisions.

When the Contractor discovers a utility has not been adjusted by the owner or the owner's representative as indicated in the contract documents, or the utility is not shown on the plans or described in the Special Provisions as to be adjusted in conjunction with construction, the Contractor shall not interfere with said utility, and shall take proper precautions to prevent damage or interruption of the utility and shall promptly notify the Engineer of the nature and location of said utility.

All necessary adjustments, as determined by the Engineer, of utilities not shown on the plans or not identified by markers, will be made at no cost to the Contractor except traffic structures, light poles, etc., that are normally located within the proposed construction limits as hereinafter defined will not be adjusted unless required by the proposed improvement.

(a) Limits of Proposed Construction for Utilities Paralleling the Roadway. For the purpose of this Article, limits of proposed construction for utilities extending in the same longitudinal direction as the roadway, shall be defined as follows:

- (1) The horizontal limits shall be a vertical plane, outside of, parallel to, and 600 mm (2 ft) distant at right angles from the plan or revised slope limits.

In cases where the limits of excavation for structures are not shown on the plans, the horizontal limits shall be a vertical plane 1.2 m (4 ft) outside the edges of structure footings or the structure where no footings are required.

- (2) The upper vertical limits shall be the regulations governing the roadbed clearance for the specific utility involved.
- (3) The lower vertical limits shall be the top of the utility at the depth below the proposed grade as prescribed by the governing agency or the limits of excavation, whichever is less.

(b) Limits of Proposed Construction for Utilities Crossing the Roadway. For the purpose of this Article, limits of proposed construction for utilities crossing the roadway in a generally transverse direction shall be defined as follows:

- (1) Utilities crossing excavations for structures that are normally made by trenching such as sewers, underdrains, etc. and all minor structures such as manholes, inlets, foundations for signs, foundations for traffic signals, etc., the limits shall be the space to be occupied by the proposed permanent construction unless otherwise required by the regulations governing the specific utility involved.
- (2) For utilities crossing the proposed site of major structures such as bridges, sign trusses, etc., the limits shall be as defined above for utilities extending in the same general direction as the roadway.

The Contractor may make arrangements for adjustment of utilities outside of the limits of proposed construction provided the Contractor furnishes the Department with a signed agreement with the utility owner covering the adjustments to be made. The cost of any adjustments made outside the limits of proposed construction shall be the responsibility of the Contractor unless otherwise provided.

The Contractor shall request all utility owners to field locate their facilities according to Article 107.31. The Engineer may make the request for location from the utility after receipt of notice from the Contractor. On request, the Engineer will make an inspection to verify that the utility company has field located its facilities, but will not assume responsibility for the accuracy of such work. The Contractor shall be responsible for maintaining the excavations or markers provided by the utility owners. This field location procedure may be waived if the utility owner has stated in writing to the Department it is satisfied the construction plans are sufficiently accurate. If the utility owner does not submit such statement to the Department, and they do not field locate their facilities in both horizontal and vertical alignment, the Engineer will authorize the Contractor in writing to proceed to locate the facilities in the most economical and reasonable manner, subject to the approval of the Engineer, and be paid according to Article 109.04.

The Contractor shall coordinate with any planned utility adjustment or new installation and the Contractor shall take all precautions to prevent disturbance or damage to utility facilities. Any failure on the part of the utility owner, or their representative, to proceed with any planned utility adjustment or new installation shall be reported promptly by the Contractor to the Engineer orally and in writing.

The Contractor shall take all necessary precautions for the protection of the utility facilities. The Contractor shall be responsible for any damage or destruction of utility facilities resulting from neglect, misconduct, or omission in the Contractor's manner or method of execution or nonexecution of the work, or caused by defective work or the use of unsatisfactory materials. Whenever any damage or destruction of a utility facility occurs as a result of work performed by the Contractor, the utility company will be immediately notified. The utility company will make arrangements to restore such facility to a condition equal to that existing before any such damage or destruction was done.

It is understood and agreed that the Contractor has considered in the bid all of the permanent and temporary utilities in their present and/or adjusted positions.

No additional compensation will be allowed for any delays, inconvenience, or damage sustained by the Contractor due to any interference from the said utility facilities or the operation of relocating the said utility facilities.

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISION
FOR
INSURANCE

Effective: February 1, 2007
Revised: August 1, 2007

All references to Sections or Articles in this specification shall be construed to mean specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

The Contractor shall name the following entities as additional insured under the Contractor's general liability insurance policy in accordance with Article 107.27:

Civiltech Engineering, Inc.

Milhouse Engineering and Construction

Gewalt Hamilton Associates

City of Evanston

The entities listed above and their officers, employees, and agents shall be indemnified and held harmless in accordance with Article 107.26.

BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE) (RETURN FORM WITH BID)

Effective: November 2, 2006

Revised: January 2, 2007

Description. For projects with at least 1200 tons (1100 metric tons) of work involving applicable bituminous materials, 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 pavement preservation 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: $Q, \text{ metric tons} = A \times D \times (G_{mb} \times 24.99) / 1000$. 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 items of work 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:** _____

80173

CEMENT (BDE)

Effective: January 1, 2007

Revised: November 1, 2007

Revise Section 1001 of the Standard Specifications to read:

"SECTION 1001. CEMENT

1001.01 Cement Types. Cement shall be according to the following.

- (a) Portland Cement. Acceptance of portland cement shall be according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants".

Portland cement shall be according to ASTM C 150, and shall meet the standard physical and chemical requirements. Type I or Type II may be used for cast-in-place, precast, and precast prestressed concrete. Type III may be used according to Article 1020.04, or when approved by the Engineer. All other cements referenced in ASTM C 150 may be used when approved by the Engineer.

The total of all organic processing additions shall be a maximum of 1.0 percent by weight (mass) of the cement and the total of all inorganic processing additions shall be a maximum of 4.0 percent by weight (mass) of the cement. Organic processing additions shall be limited to grinding aids that improve the flowability of cement, reduce pack set, and improve grinding efficiency. Inorganic processing additions shall be limited to granulated blast-furnace slag according to the chemical requirements of AASHTO M 302 and Class C fly ash according to the chemical requirements of AASHTO M 295.

- (b) Portland-Pozzolan Cement. Acceptance of portland-pozzolan cement shall be according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants".

Portland-pozzolan cement shall be according to ASTM C 595 and shall meet the standard physical and chemical requirements. Type IP or I(PM) may be used for cast-in-place, precast, and precast prestressed concrete, except when Class PP concrete is used. The pozzolan constituent for Type IP shall be a maximum of 21 percent of the weight (mass) of the portland-pozzolan cement. All other cements referenced in ASTM C 595 may be used when approved by the Engineer.

For cast-in-place construction, portland-pozzolan cements shall not be used in concrete mixtures when the air temperature is below 40 °F (4 °C) without permission of the Engineer. If permission is given, the mix design strength requirement may require the Contractor to increase the cement or eliminate the cement factor reduction for a water-

reducing or high range water-reducing admixture which is permitted according to Article 1020.05(b).

The total of all organic processing additions shall be a maximum of 1.0 percent by weight (mass) of the cement. Organic processing additions shall be limited to grinding aids as defined in (a) above. Inorganic processing additions shall not be used.

- (c) Portland Blast-Furnace Slag Cement. Acceptance of portland blast-furnace slag cement shall be according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants".

Portland blast-furnace slag cement shall be according to ASTM C 595 and shall meet the standard physical and chemical requirements. Type I(SM) slag-modified portland cement may be used for cast-in-place, precast, and precast prestressed concrete, except when Class PP concrete is used. All other cements referenced in ASTM C 595 may be used when approved by the Engineer.

For cast-in-place construction, portland blast-furnace slag cements shall not be used in concrete mixtures when the air temperature is below 40 °F (4 °C) without permission of the Engineer. If permission is given, the mix design strength requirement may require the Contractor to increase the cement or eliminate the cement factor reduction for a water-reducing or high range water-reducing admixture which is permitted according to Article 1020.05(b).

The total of all organic processing additions shall be a maximum of 1.0 percent by weight (mass) of the cement. Organic processing additions shall be limited to grinding aids as defined in (a) above. Inorganic processing additions shall not be used.

- (d) Rapid Hardening Cement. Rapid hardening cement shall be used according to Article 1020.04 or when approved by the Engineer. The cement shall be on the Department's current "Approved List of Packaged, Dry, Rapid Hardening Cementitious Materials for Concrete Repairs", and shall be according to the following.

(1) The cement shall have a maximum final set of 25 minutes, according to Illinois Modified ASTM C 191.

(2) The cement shall have a minimum compressive strength of 2000 psi (13,800 kPa) at 3.0 hours, and 4000 psi (27,600 kPa) at 24.0 hours, according to Illinois Modified ASTM C 109.

(3) The cement shall have a maximum drying shrinkage of 0.050 percent at seven days, according to Illinois Modified ASTM C 596.

(4) The cement shall have a maximum expansion of 0.020 percent at 14 days, according to Illinois Modified ASTM C 1038.

(5) The cement shall have a minimum 80 percent relative dynamic modulus of elasticity; and shall not have a weight (mass) gain in excess of 0.15 percent or a weight (mass) loss in excess of 1.0 percent, after 100 cycles, according to Illinois Modified AASHTO T 161, Procedure B. At 100 cycles, the specimens are measured and weighed at 73 °F (23 °C).

(e) Calcium Aluminate Cement. Calcium aluminate cement shall be used when specified by the Engineer. The cement shall meet the standard physical requirements for Type I cement according to ASTM C 150, except the time of setting shall not apply. The chemical requirements shall be determined according to ASTM C 114 and shall be as follows: minimum 38 percent aluminum oxide (Al_2O_3), maximum 42 percent calcium oxide (CaO), maximum 1 percent magnesium oxide (MgO), maximum 0.4 percent sulfur trioxide (SO_3), maximum 1 percent loss on ignition, and maximum 3.5 percent insoluble residue.

1001.02 Uniformity of Color. Cement contained in single loads or in shipments of several loads to the same project shall not have visible differences in color.

1001.03 Mixing Brands and Types. Different brands or different types of cement from the same manufacturing plant, or the same brand or type from different plants shall not be mixed or used alternately in the same item of construction unless approved by the Engineer.

1001.04 Storage. Cement shall be stored and protected against damage, such as dampness which may cause partial set or hardened lumps. Different brands or different types of cement from the same manufacturing plant, or the same brand or type from different plants shall be kept separate."

80166

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (DBE)

Effective: September 1, 2000

Revised: January 1, 2007

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 DBE Directory or most recent addendum.

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 firms performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. This determination is based on an assessment of the type of work, the location of the work, and the availability of

DBE companies to do a part of the work. The assessment indicates that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform 12 % 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 award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set forth in this Special Provision:

- (a) The bidder documents that firmly committed DBE participation has been obtained to meet the goal; or
- (b) The bidder documents that a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

DBE LOCATOR REFERENCES. Bidders may consult the DBE Directory as a reference source for DBE companies certified by the Department. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217)785-4611, or by visiting the Department's web site at www.dot.il.gov.

BIDDING PROCEDURES. Compliance with the bidding procedures of this Special Provision is required prior to the award of the contract and the failure of the as-read low bidder to comply will render the bid not responsive.

- (a) In order to assure the timely award of the contract, the as-read low bidder shall submit a Disadvantaged Business Utilization Plan on Department form SBE 2026 within seven working days after the date of letting. To meet the seven day requirement, the bidder may send the Plan by certified mail or delivery service within the seven working day period. If a question arises concerning the mailing date of a Plan, the mailing date will be established by the U.S. Postal Service postmark on the original certified mail receipt from the U.S. Postal Service or the receipt issued by a delivery service. It is the responsibility of the bidder to ensure that the postmark or receipt date is affixed within the seven working days if the bidder intends to rely upon mailing or delivery to satisfy the submission day requirement. The Plan is to be submitted 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). It is the responsibility of the bidder to obtain confirmation of telefax delivery. The Department will not accept a Utilization Plan if it does not meet the seven day submittal requirement and the bid will be declared not responsive. In the event the bid is declared not responsive due to a failure to submit a Plan or failure to comply with the bidding procedures set forth herein, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty, and may deny authorization to bid the

project if re-advertised for bids. The Department reserves the right to invite any other bidder to submit a Utilization Plan at any time for award consideration or to extend the time for award.

- (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. The signatures on these forms must be original signatures. All elements of information indicated on the said form shall be provided, including but not limited to the following:
 - (1) The name and address of each DBE to be used;
 - (2) A description, including pay item numbers, of the commercially useful work to be done by each DBE;
 - (3) The price to be paid to each DBE for the identified work specifically stating 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) A commitment statement signed by the bidder and each DBE evidencing availability and intent to perform commercially useful work on the project; and
 - (5) If the bidder is a joint venture comprised of DBE firms and non-DBE firms, the plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s).
- (d) The contract will not be awarded until the Utilization Plan submitted by the bidder is approved. The Utilization Plan will be approved by the Department if the Plan commits sufficient commercially useful DBE work performance to meet the contract goal. The Utilization Plan will not be approved by the Department if the Plan does not commit sufficient DBE performance to meet the contract goal unless the bidder documents that it made a good faith effort to meet the goal. The good faith procedures of Section VIII of this special provision apply. If the Utilization Plan is not approved because it is deficient in a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no less than a five working day period in order to cure the deficiency.

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 firm 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 firm 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 full value of all such DBE trucks operated using DBE employed drivers. Goal credit will be limited to the value of the reasonable fee or commission received by the DBE if trucks are leased from a non-DBE company.
- (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.

GOOD FAITH EFFORT PROCEDURES. If the bidder cannot obtain sufficient DBE commitments to meet the contract goal, the bidder must document in the Utilization Plan the good faith efforts made in the attempt 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 could reasonably be expected to obtain sufficient DBE participation. The Department will consider the quality, quantity, and intensity of the kinds of efforts that the bidder has made. Mere *pro forma* efforts are not good faith efforts; rather, the bidder is expected to have taken those 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 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 a good faith effort has not been made, the Department will notify the bidder of that preliminary determination by contacting the responsible company official designated in the Utilization Plan. The preliminary determination shall include a statement of reasons why good faith efforts have not been found, and may include additional good faith efforts that the bidder could take. The notification will designate a five working day period during which the bidder shall take additional efforts. The bidder is not limited by a statement of additional efforts, but may take other action beyond any stated additional efforts in order to obtain additional DBE commitments. The bidder shall submit an amended Utilization Plan if additional DBE commitments to meet the contract goal are secured. If additional DBE commitments sufficient to meet the contract goal are not secured, the bidder shall report the final good faith efforts made in the time allotted. All additional efforts taken by the bidder will be considered as part of the bidder's good faith efforts. If the bidder is not able to meet the goal after taking additional efforts, the Department will make a pre-final determination of the good faith efforts of the bidder and will notify the designated responsible company official of the reasons for an adverse determination.
- (c) The bidder may request administrative reconsideration of a pre-final determination adverse to the bidder within the five working days after 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 pre-final determination shall become final if a request is not made and delivered. A request may provide additional written documentation and/or argument concerning the issue of whether an adequate good faith effort was made to meet the contract goal. In addition, the request shall be considered a consent by the bidder to extend the time for award. The request will be forwarded to the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person in order to consider all issues of whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

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 Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the Contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal.

- (a) No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be submitted to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764. Telephone number (217) 785-4611. Telefax number (217) 785-1524.
- (b) All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the Participation Statement. The Contractor shall not terminate for convenience a DBE listed in the Utilization Plan and then perform the work of the terminated DBE with its own forces, those of an affiliate or those of another subcontractor, whether DBE or not, without first obtaining the written consent of the Bureau of Small Business Enterprises to amend the Utilization Plan. If a DBE listed in the Utilization Plan is terminated for reasons other than convenience, or fails to complete its work on the contract for any reason, the Contractor shall make good faith efforts to

find another DBE to substitute for the terminated DBE. The good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, but only to the extent needed to meet the contract goal or the amended contract goal. The Contractor shall notify the Bureau of Small Business Enterprises of any termination for reasons other than convenience, and shall obtain approval for inclusion of the substitute DBE in the Utilization Plan. If good faith efforts following a termination of a DBE for cause are not successful, the Contractor shall contact the Bureau and provide a full accounting of the efforts undertaken to obtain substitute DBE participation. The Bureau will evaluate the good faith efforts in light of all circumstances surrounding the performance status of the contract, and determine whether the contract goal should be amended.

- (c) 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 therefor 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 Report on Department form SBE 2115 to the Regional Engineer. If full and final payment has not been made to the DBE, the Report shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes that the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Plan, the Department will deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages.
- (d) 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.
- (e) 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.

DOWEL BARS (BDE)

Effective: April 1, 2007

Revise the fifth sentence of Article 1006.11(b) of the Standard Specifications to read:

"The bars shall be epoxy coated according to AASHTO M 284, except the thickness of the epoxy shall be 7 to 12 mils (0.18 to 0.30 mm)."

80178

ENGINEER'S FIELD OFFICE TYPE A (BDE)

Effective: April 1, 2007

Add the following to Article 670.02 of the Standard Specifications:

"(n) One wireless data router with wireless network connection to access the Department's network for the exclusive use of the Engineer. The wireless data router shall operate within a temperature range of 32 to 131°F (0 to 55°C) and have the following capabilities.

(1) Connection.

- a. CDMA wireless technology with authentication and identification system for security.
- b. CDMA based EV-DO(rev.A) transmission capabilities.
- c. EVDO(rev.A) shall be backward compatible through both EVDO(rev0) and 1XRTT.
- d. Connection shall be capable of compression in order to optimize the connection speed.

(2) Router.

- a. A minimum of four ethernet ports for wired connection.
- b. Capable of 802.11b & g for wireless LAN interface.
- c. Configurable ability to port data to fax capabilities through the router using efax or IP fax devices.
- d. Automatic receipt of IP addresses with DHCP server.
- e. Configurable OFDM (Orthogonal Frequency Division Multiplexing) technology.

(3) Security.

- a. Configurable capable of 64-bit or 128-bit WEP encryption, and WPA-PSK authentication wireless security (WiFi Protected Access - Pre-shared Key Mode).
- b. Configurable LAN security: NAT with DHCP, PPTP VPN pass-through, MAC filtering, IP filtering, and filter scheduling.
- c. Configurable firewall security at the router."

80179

EQUIPMENT RENTAL RATES (BDE)

Effective: August 2, 2007

Replace the second and third paragraphs of Article 105.07(b)(4)a. of the Standard Specifications with the following:

“Equipment idled which cannot be used on other work, and which is authorized to standby on the project site by the Engineer, will be paid for according to Article 109.04(b)(4).”

Replace Article 109.04(b)(4) of the Standard Specifications with the following:

“(4) Equipment. Equipment used for extra work shall be authorized by the Engineer. The equipment shall be specifically described, be of suitable size and capacity for the work to be performed, and be in good operating condition. For such equipment, the Contractor will be paid as follows.

- a. Contractor Owned Equipment. Contractor owned equipment will be paid for by the hour using the applicable rate from the “Equipment Watch Rental Rate Blue Book” (Blue Book). The applicable hourly rate is defined as the FHWA hourly rate, from the time period the force account work begins, adjusted for both the model year of the equipment and the Illinois region. The time allowed will be the actual time the equipment is operating on the extra work. For the time required to move the equipment to and from the site of the extra work and any authorized idle (standby) time, payment will be made according to: $0.5 \times (\text{AHR} - \text{EOC})$.

Where: AHR = Applicable Hourly Rate (defined above)
EOC = Estimated Operating Costs per hour (from the Blue Book)

All time allowed shall fall within the working hours authorized for the extra work.

The rates above include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs, overhaul and maintenance of any kind, depreciation, storage, overhead, profits, insurance, and all incidentals. The rates do not include labor.

The Contractor shall submit to the Engineer sufficient information for each piece of equipment and its attachments to enable the Engineer to determine the proper equipment category. If a rate is not established in the Blue Book for a particular piece of equipment, the Engineer will establish a rate for that piece of equipment that is consistent with its cost and use in the industry.

- b. Rented Equipment. Whenever it is necessary for the Contractor to rent equipment to perform extra work, the rental and transportation costs of the

equipment plus five percent for overhead will be paid. In no case shall the rental rates exceed those of established distributors or equipment rental agencies.

All prices shall be agreed to in writing before the equipment is used."

80189

EROSION AND SEDIMENT CONTROL DEFICIENCY DEDUCTION (BDE)

Effective: April 1, 2007

Revise Article 105.03(a) of the Standard Specifications to read:

"(a) Erosion and Sediment Control Deficiency Deduction. When the Engineer is notified or determines an erosion and/or sediment control deficiency(s) exists, he/she will notify and direct the Contractor to correct the deficiency within a specified time. The specified time, which begins upon notification to the Contractor, will be from 1/2 hour to 1 week based on the urgency of the situation and the nature of the deficiency. The Engineer will be the sole judge.

A deficiency may be any lack of repair, maintenance, or implementation of erosion and/or sediment control devices included in the contract, or any failure to comply with the conditions of the National Pollutant Discharge Elimination System (NPDES) Storm Water Permit for Construction Site Activities. A deficiency may also be applied to situations where corrective action is not an option such as the failure to participate in a jobsite inspection of the project, failure to install required measures prior to initiating earth moving operations, disregard of concrete washout requirements, or other disregard of the NPDES permit.

If the Contractor fails to correct a deficiency within the specified time, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency exists. The calendar day(s) will begin with notification to the Contractor and end with the Engineer's acceptance of the correction. The daily monetary deduction will be either \$1000.00 or 0.05 percent of the awarded contract value, whichever is greater. For those deficiencies where corrective action was not an option, the monetary deduction will be immediate and will be valued at one calendar day."

80180

ERRATA FOR THE 2007 STANDARD SPECIFICATIONS (BDE)

Effective: January 1, 2007

Revised: August 1, 2007

- Page 60 Article 109.07(a). In the second line of the first paragraph change "amount" to "quantity".
- Page 154 Article 312.05. In the second line of the fifth paragraph change "180 °C" to "175 °C".
- Page 207 Article 406.14. In the second line of the second paragraph change "MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS, of the mixture composition specified;" to "MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS;".
- Page 237 Article 420.18. In the second line of the first paragraph change "October 15" to "November 1".
- Page 345 Article 505.08(l). In the third line of the first paragraph change "1/8 mm" to "1/8 in.".
- Page 345 Article 505.08(l). In the nineteenth line of the first paragraph change "is" to "in".
- Page 379 Article 512.15. In the first and sixth lines of the third paragraph change "50 percent" to "ten percent".
- Page 383 Article 516.04(b)(1). In the fifth line of the first paragraph change "drillingpouring" to "pouring".
- Page 390 Article 520.02(h). Change "1027.021" to "1027.01".
- Page 398 Article 540.07(b). Add the following two paragraphs after the third paragraph:
"Excavation in rock will be measured for payment according to Article 502.12.
Removal and disposal of unstable and/or unsuitable material below plan bedding grade will be measured for payment according to Article 202.07."
- Page 398 Article 540.08. Add the following two paragraphs after the fifth paragraph:
"Excavation in rock will be paid for according to Article 502.13.
Removal and disposal of unstable and/or unsuitable material below plan bedding grade will be paid for according to Article 202.08."
- Page 435 Article 542.04(b). Delete the last sentence of the last paragraph.

- Page 465 Article 551.06. In the second line of the first paragraph change "or" to "and/or".
- Page 585 Article 701.19(a). Add "701400" to the second line of the first paragraph.
- Page 586 Article 701.19(c). Delete "701400" from the second line of the first paragraph.
- Page 586 Article 701.19. Add the following subparagraph to this Article:
" (f) Removal of existing pavement markings and raised reflective pavement markers will be measured for payment according to Article 783.05."
- Page 587 Article 701.20(b). Delete "TRAFFIC CONTROL AND PROTECTION STANDARD 701400;" from the first paragraph.
- Page 588 Article 701.20. Add the following subparagraph to this Article.
" (j) Removal of existing pavement markings and raised reflective pavement markers will be paid for according to Article 783.06."
- Page 639 Article 805.04. In the first line of the second paragraph change "changes" to "charges".
- Page 762 Article 1020.04. In Table 1 Classes of Portland Cement Concrete and Mix Design Criteria, add to the minimum cement factor for Class PC Concrete "5.65 (TY III)", and add to the maximum cement factor for Class PC Concrete "7.05 (TY III)".
- Page 765 Article 1020.04. In Table 1 Classes of Portland Cement Concrete and Mix Design Criteria (metric), add to the minimum cement factor for Class PC Concrete "335 (TY III)", and add to the maximum cement factor for Class PC Concrete "418 (TY III)".
- Page 800 Article 1030.05(a)(12). Revise "Dust Collection Factor" to "Dust Correction Factor".
- Page 800 Article 1030.05(a)(14). Revise the first occurrence of Article 1030.05(a)(14) to Article 1030.05(a)(13).
- Page 800 Article 1030.05(a). Add to the list of QC/QA documents "(16) Calibration of Equipment for Asphalt Content Determination".
- Page 809 Article 1030.05. Revise the subparagraph "(a) Quality Assurance by the Engineer." to read "(e) Quality Assurance by the Engineer."
- Page 889 Article 1069.02(a)(2). In the third line of the first paragraph add "stainless steel" in front of "screws".

- Page 889 Article 1069.02(b). Delete the third paragraph.
- Page 890 Article 1069.02(c). Delete subparagraph (c).
- Page 946 Article 1080.03(a)(1). In the third line of the first paragraph revise "(300 µm)" to "(600 µm)".
- Page 963 Article 1083.02(b). In the second line of the first paragraph revise "ASTM D 4894" to "ASTM D 4895".
- Page 1076 In the Index of Pay Items delete the pay item "BITUMINOUS SURFACE REMOVAL – BUTT JOINT".

80168

HOT-MIX ASPHALT EQUIPMENT, SPREADING AND FINISHING MACHINE (BDE)

Effective: January 1, 2005

Revised: January 1, 2007

Revise the fourth paragraph of Article 1102.03 of the Standard Specifications to read:

“The paver shall be equipped with a receiving hopper having sufficient capacity for a uniform spreading operation. The hopper shall be equipped with a distribution system to uniformly place a non-segregated mixture in front of the screed. The distribution system shall have chain curtains, deflector plates, and /or other devices designed and built by the paver manufacturer to prevent segregation during distribution of the mixture from the hopper to the paver screed. The Contractor shall submit a written certification that the devices recommended by the paver manufacturer to prevent segregation have been installed and are operational. Prior to paving, the Contractor, in the presence of the Engineer, shall visually inspect paver parts specifically identified by the manufacturer for excessive wear and the need for replacement. The Contractor shall supply a completed check list to the Engineer noting the condition of the parts. Worn parts shall be replaced. The Engineer may require an additional inspection prior to placement of the surface course or at other times throughout the work.”

80142

MULTILANE PAVEMENT PATCHING (BDE)

Effective: November 1, 2002

Pavement broken and holes opened for patching shall be completed prior to weekend or holiday periods. Should delays of any type or for any reason prevent the completion of the work, temporary patches shall be constructed. Material able to support the average daily traffic and meeting the approval of the Engineer shall be used for the temporary patches. The cost of furnishing, placing, maintaining, removing and disposing of the temporary work, including traffic control, shall be the responsibility of the Contractor.

80082

NOTIFICATION OF REDUCED WIDTH (BDE)

Effective: April 1, 2007

Add the following after the first paragraph of Article 701.06 of the Standard Specifications:

"Where the clear width through a work zone with temporary concrete barrier will be 16.0 ft (4.88 m) or less, the Contractor shall notify the Engineer at least 21 days in advance of implementing the traffic control for that restriction."

80182

PAYMENTS TO SUBCONTRACTORS (BDE)

Effective: June 1, 2000

Revised: January 1, 2006

Federal regulations found at 49 CFR §26.29 mandate the Department to establish a contract clause to require Contractors to pay subcontractors for satisfactory performance of their subcontracts and to set the time for such payments.

State law also addresses the timing of payments to be made to subcontractors and material suppliers. Section 7 of the Prompt Payment Act, 30 ILCS 540/7, requires that when a Contractor receives any payment from the Department, the Contractor shall make corresponding, proportional payments to each subcontractor and material supplier performing work or supplying material within 15 calendar days after receipt of the Department payment. Section 7 of the Act further provides that interest in the amount of two percent per month, in addition to the payment due, shall be paid to any subcontractor or material supplier by the Contractor if the payment required by the Act is withheld or delayed without reasonable cause. The Act also provides that the time for payment required and the calculation of any interest due applies to transactions between subcontractors and lower-tier subcontractors and material suppliers throughout the contracting chain.

This Special Provision establishes the required federal contract clause, and adopts the 15 calendar day requirement of the State Prompt Payment Act for purposes of compliance with the federal regulation regarding payments to subcontractors. This contract is subject to the following payment obligations.

When progress payments are made to the Contractor according to Article 109.07 of the Standard Specifications, the Contractor shall make a corresponding payment to each subcontractor and material supplier in proportion to the work satisfactorily completed by each subcontractor and for the material supplied to perform any work of the contract. The proportionate amount of partial payment due to each subcontractor and material supplier throughout the contracting chain shall be determined by the quantities measured or otherwise determined as eligible for payment by the Department and included in the progress payment to the Contractor. Subcontractors and material suppliers shall be paid by the Contractor within 15 calendar days after the receipt of payment from the Department. The Contractor shall not hold retainage from the subcontractors. These obligations shall also apply to any payments made by subcontractors and material suppliers to their subcontractors and material suppliers; and to all payments made to lower tier subcontractors and material suppliers throughout the contracting chain. Any payment or portion of a payment subject to this provision may only be withheld from the subcontractor or material supplier to whom it is due for reasonable cause.

This Special Provision does not create any rights in favor of any subcontractor or material supplier against the State or authorize any cause of action against the State on account of any payment, nonpayment, delayed payment, or interest claimed by application of the State Prompt Payment Act. The Department will not approve any delay or postponement of the 15 day requirement except for reasonable cause shown after notice and hearing pursuant to Section

| 7(b) of the State Prompt Payment Act. State law creates other and additional remedies available to any subcontractor or material supplier, regardless of tier, who has not been paid for work properly performed or material furnished. These remedies are a lien against public funds set forth in Section 23(c) of the Mechanics Lien Act, 770 ILCS 60/23(c), and a recovery on the Contractor's payment bond according to the Public Construction Bond Act, 30 ILCS 550.

80022

PORTLAND CEMENT CONCRETE PLANTS (BDE)

Effective: January 1, 2007

Add the following to Article 1020.11(a) of the Standard Specifications.

- "(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 their mean strength shall not exceed 450 psi (3100 kPa) compressive and 80 psi (550 kPa) flexural. The strength standard deviation for each plant shall not exceed 650 psi (4480 kPa) compressive and 110 psi (760 kPa) flexural. The mean and standard deviation requirements shall apply to the test of record. 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 until the haul time difference is corrected."

80170

PRECAST CONCRETE HANDLING HOLES (BDE)

Effective: January 1, 2007

Add the following to Article 540.02 of the Standard Specifications:

"(g) Handling Hole Plugs..... 1042.16"

Add the following paragraph after the sixth paragraph of Article 540.06 of the Standard Specifications:

"Handling holes shall be filled with a precast concrete plug and sealed with mastic or mortar, or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation. When metal lifting inserts are used, their sockets shall be filled with mastic or mortar."

Add the following to Article 542.02 of the Standard Specifications:

"(ee) Handling Hole Plugs 1042.16"

Revise the fifth paragraph of Article 542.04(d) of the Standard Specifications to read:

"Handling holes in concrete pipe shall be filled with a precast concrete plug and sealed with mastic or mortar; or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation."

Add the following to Article 550.02 of the Standard Specifications:

"(o) Handling Hole Plugs..... 1042.16"

Replace the fourth sentence of the fifth paragraph of Article 550.06 of the Standard Specifications with the following:

"Handling holes in concrete pipe shall be filled with a precast concrete plug and sealed with mastic or mortar; or filled with a polyethylene plug. The plug shall not project beyond the inside surface after installation."

Add the following to Article 602.02 of the Standard Specifications:

"(p) Handling Hole Plugs..... 1042.16(a)"

Replace the fifth sentence of the first paragraph of Article 602.07 of the Standard Specifications with the following:

“Handling holes shall be filled with a precast concrete plug and sealed with mastic or mortar. The plug shall not project beyond the inside surface after installation. When metal lifting inserts are used, their sockets shall be filled with mastic or mortar.”

Add the following to Section 1042 of the Standard Specifications:

“**1042.16 Handling Hole Plugs.** Plugs for handling holes in precast concrete products shall be as follows.

- (a) Precast Concrete Plug. The precast concrete plug shall have a tapered shape and shall have a minimum compressive strength of 3000 psi (20,700 kPa) at 28 days.
- (b) Polyethylene Plug. The polyethylene plug shall have a “mushroom” shape with a flat round top and a stem with three different size ribs. The plug shall fit snugly and cover the handling hole.

The plug shall be according to the following.

Mechanical Properties	Test Method	Value (min.)
Flexural Modulus	ASTM D 790	3300 psi (22,750 kPa)
Tensile Strength (Break)	ASTM D 638	1600 psi (11,030 kPa)
Tensile Strength (Yield)	ASTM D 638	1200 psi (8270 kPa)

Thermal Properties	Test Method	Value (min.)
Brittle Temperature	ASTM D 746	-49 °F (-45 °C)
Vicat Softening Point	ASTM D 1525	194 °F (90 °C)”

80171

RAILROAD PROTECTIVE LIABILITY INSURANCE (5 and 10) (BDE)

Effective: January 1, 2006

Description. Railroad Protective Liability and Property Damage Liability Insurance shall be carried according to Article 107.11 of the Standard Specifications, except the limits shall be a minimum of \$5,000,000 combined single limit per occurrence for bodily injury liability and property damage liability with an aggregate limit of \$10,000,000 over the life of the policy. A separate policy is required for each railroad unless otherwise noted.

NAMED INSURED & ADDRESS	NUMBER & SPEED OF PASSENGER TRAINS	NUMBER & SPEED OF FREIGHT TRAINS
Chicago Transit Authority 567 West Lake St. Chicago, IL 60661	- 192 Trains/Day - 55 mph in both directions	- 0 Trains/Day

DOT/AAR No.: RR Mile Post: None
RR Division: None RR Sub-Division: Yellow Line

For Freight/Passenger Information Contact: Larry Wall Phone: (312) 681-2220
For Insurance Information Contact: Tamika Preff Phone: (312) 681-2246

DOT/AAR No.: RR Mile Post:
RR Division: RR Sub-Division:

For Freight/Passenger Information Contact: Phone:
For Insurance Information Contact: Phone:

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

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

The Contractor will be advised when the Department has received approval of the insurance from the railroad(s). Before any work begins on railroad right-of-way, the Contractor shall submit to the Engineer evidence that the required insurance has been approved by the railroad(s). The Contractor shall also provide the Engineer with the expiration date of each required policy.

Basis of Payment. Providing Railroad Protective Liability and Property Damage Liability Insurance will be paid for at the contract unit price per Lump Sum for RAILROAD PROTECTIVE LIABILITY INSURANCE.

80157

RECLAIMED ASPHALT PAVEMENT (RAP) (BDE)

Effective: January 1, 2007

Revised: August 1, 2007

In Article 1030.02(g), delete the last sentence of the first paragraph in (Note 2).

Revise Section 1031 of the Standard Specifications to read:

"SECTION 1031. RECLAIMED ASPHALT PAVEMENT

1031.01 Description. Reclaimed asphalt pavement (RAP) is reclaimed asphalt pavement resulting from cold milling or crushing of an existing dense graded 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.

1031.02 Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. No additional RAP shall be added to the pile after the pile has been sealed. Stockpiles shall be sufficiently separated to prevent intermingling at the base. Stockpiles shall be identified by signs indicating the type as listed below (i.e. "Homogeneous Surface").

Prior to milling, the Contractor shall request the District to provide verification of the quality of the RAP to clarify appropriate stockpile.

- (a) Homogeneous. Homogeneous RAP stockpiles shall consist of RAP from Class I, Superpave (High ESAL), HMA (High ESAL), or equivalent mixtures and represent:
1) the same aggregate quality, but shall be at least C quality; 2) the same type of crushed aggregate (either crushed natural aggregate, ACBF slag, or steel slag); 3) similar gradation; and 4) similar asphalt binder content. If approved by the Engineer, combined single pass surface/binder millings may be considered "homogenous" with a quality rating dictated by the lowest coarse aggregate quality present in the mixture.
- (b) Conglomerate 5/8. Conglomerate 5/8 RAP stockpiles shall consist of RAP from Class I, Superpave (High ESAL), HMA (High ESAL), or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate 5/8 RAP shall be processed prior to testing by crushing to where all RAP shall pass the 5/8 in. (16 mm) or smaller screen. Conglomerate 5/8 RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
- (c) Conglomerate 3/8. Conglomerate 3/8 RAP stockpiles shall consist of RAP from Class I, Superpave (High ESAL), HMA (High ESAL), or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least B quality. This RAP may have an

inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate 3/8 RAP shall be processed prior to testing by crushing to where all RAP shall pass the 3/8 in. (9.5 mm) or smaller screen. Conglomerate 3/8 RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.

- (d) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from Class I, Superpave (High or Low ESAL), HMA (High or Low ESAL), or equivalent mixtures. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
- (e) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

RAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, joint sealants, etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

1031.03 Testing. When used in HMA, the RAP shall be sampled and tested either during or after stockpiling.

For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).

For testing after stockpiling, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

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

- (a) Testing Conglomerate 3/8. In addition to the requirements above, conglomerate 3/8 RAP shall be tested for maximum theoretical specific gravity (G_{mm}) at a frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).

- (b) Evaluation of Test Results. All of the extraction results shall be compiled and averaged for asphalt binder content and gradation and, when applicable G_{mm} . Individual extraction test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	Homogeneous / Conglomerate	Conglomerate "D" Quality
1 in. (25 mm)		$\pm 5 \%$
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}	± 0.02 ^{2/}	

1/ The tolerance for conglomerate 3/8 shall be $\pm 0.3 \%$.

2/ Applies only to conglomerate 3/8. When variation of the G_{mm} exceeds the ± 0.02 tolerance, a new conglomerate 3/8 stockpile shall be created which will also require an additional mix design.

If more than 20 percent of the individual sieves are out of the gradation tolerances, or if more than 20 percent of the asphalt binder content test results fall outside the appropriate tolerances, the RAP shall not be used in HMA unless the RAP representing the failing tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the Illinois Test Procedure, "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)".

1031.04 Quality Designation of Aggregate in RAP. The quality of the RAP shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.

- (a) RAP from Class I, Superpave (High ESAL), or HMA (High ESAL) surface mixtures are designated as containing Class B quality coarse aggregate.
- (b) RAP from Superpave (Low ESAL)/HMA (Low ESAL) IL-19.0L binder and IL-9.5L surface mixtures are designated as Class D quality coarse aggregate.
- (c) RAP from Class I, Superpave (High ESAL), or HMA (High ESAL) binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate.

(d) RAP from bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.

1031.05 Use of RAP in HMA. The use of RAP in HMA shall be as follows.

- (a) Coarse Aggregate Size. The coarse aggregate in all RAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.
- (b) Steel Slag Stockpiles. RAP stockpiles containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in HMA (High ESAL and Low ESAL) surface mixtures only.
- (c) Use in HMA Surface Mixtures (High and Low ESAL). RAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall be either homogeneous or conglomerate 3/8, in which the coarse aggregate is Class B quality or better.
- (d) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. RAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be homogeneous, conglomerate 5/8, or conglomerate 3/8, in which the coarse aggregate is Class C quality or better.
- (e) Use in Shoulders and Subbase. RAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be homogeneous, conglomerate 5/8, conglomerate 3/8, or conglomerate DQ.
- (f) The use of RAP shall be a contractor's option when constructing HMA in all contracts. When the contractor chooses the RAP option, the percentage of RAP shall not exceed the amounts indicated in the table for a given N Design.

Max RAP Percentage

HMA MIXTURES ^{1/, 3/}	MAXIMUM % RAP		
	Ndesign	Binder/Leveling Binder	Surface
30	30	30	10
50	25	15	10
70	15 / 25 ^{2/}	10 / 15 ^{2/}	10
90	10	10	10
105	10	10	10

1/ For HMA Shoulder and Stabilized Sub-Base (HMA) N-30, the amount of RAP shall not exceed 50% of the mixture.

2/ Value of Max % RAP if 3/8 RAP is utilized.

- 3/ When RAP exceeds 20%, the high & low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25% RAP would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28).

1031.06 HMA Mix Designs. At the Contractor's option, HMA mixtures may be constructed utilizing RAP material meeting the above detailed requirements.

RAP designs shall be submitted for volumetric verification. If additional RAP stockpiles are tested and found that no more than 20 percent of the results, as defined under "Testing" herein, are outside of the control tolerances set for the original RAP stockpile and HMA mix design, and meets all of the requirements herein, the additional RAP stockpiles may be used in the original mix design at the percent previously verified.

1031.07 HMA Production. The coarse aggregate in all RAP used shall be equal to or less than the nominal maximum size requirement for the HMA mixture being produced.

To remove or reduce agglomerated material, a scalping screen, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAP feed system to remove or reduce oversized material. If material passing the sizing device adversely affects the mix production or quality of the mix, the sizing device shall be set at a size specified by the Engineer.

If the RAP control tolerances or QC/QA test results require corrective action, the Contractor shall cease production of the mixture containing RAP and either switch to the virgin aggregate design or submit a new RAP design. When producing mixtures containing conglomerate 3/8 RAP, a positive dust control system shall be utilized.

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

(a) Dryer Drum Plants.

- (1) Date, month, year, and time to the nearest minute for each print.
- (2) HMA mix number assigned by the Department.
- (3) Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- (4) Accumulated dry weight of RAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- (5) Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.

- (6) Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
- (7) Residual asphalt binder in the RAP material as a percent of the total mix to the nearest 0.1 percent.
- (8) Aggregate and RAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAP are printed in wet condition.)

(b) Batch Plants.

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

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

1031.08 RAP in Aggregate Surface Course and Aggregate Shoulders. The use of RAP in aggregate surface course and aggregate shoulders shall be as follows.

- (a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except "Other". The testing requirements of Article 1031.03 shall not apply.
- (b) Gradation. One hundred percent of the RAP material shall pass the 1 1/2 in. (37.5 mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded or single sized will not be accepted."

80172

REFLECTIVE CRACK CONTROL TREATMENT (BDE)

Effective: April 1, 2006

Revised: January 1, 2007

Revise the third sentence of the first paragraph of Article 443.01 of the Standard Specifications to read:

“Strip reflective crack control treatment shall be either System A, B, C, or D at the option of the Contractor.”

Add the following to Article 443.02 of the Standard Specifications:

“(c) Hot-Poured Joint Sealer 1050.02”

Revise Article 443.09 of the Standard Specifications to Article 443.10.

Revise Article 443.10 of the Standard Specifications to Article 443.11.

Add the following Article to the Standard Specifications:

“**Article 443.09 Reflective Crack Control System D.** The stress relief membrane shall be applied when the surface temperature is a minimum of 50 °F (10 °C) and rising.

(a) Tack Coat Placement for Membrane. The tack coat shall be applied to the existing surface using one of the following methods.

(1) A hand held wand with a nozzle that produces a fan shaped spray to apply the tack coat evenly according to the rate specified by the manufacturer.

(2) A hand held wand without a spray nozzle. The tack coat shall be spread with a squeegee according to the rate specified by the manufacturer.

(3) A distributor bar attached to a distributor truck, for longitudinal applications only. The distributor bar nozzles shall be set at 20 degrees to the axis of the bar and the tack coat shall be applied according to the rate specified by the manufacturer. Application of the tack coat directly from a distributor bar attached to a distributor truck will not be permitted for transverse applications.

The maximum width of the tack coat application shall be such that the tack coat extends a maximum 1 1/2 in. (40 mm) on both sides of the stress relief membrane strip.

The use of emulsified asphalts and/or cutbacks is prohibited for use as a tack to bond the stress relief membrane to the existing pavement surface.

(b) Stress Relief Membrane Placement. The open grid woven polyester side of the material shall be placed up with the nonwoven side placed into the tack. The stress relief

membrane shall be centered over the crack or joint on the existing surface and with a minimum of 6 in. (150 mm) of the membrane extending beyond the edges of the joint.

The material shall be laid smooth with no uplifted edges. The stress relief membrane shall be placed and rolled immediately with a riding static drum roller or a rubber tire roller. A maximum of three minutes shall pass between the first and second rolling efforts.

The stress relief membrane shall be butted where transverse and longitudinal joints meet or where two rolls must be joined. When required, the stress relief membrane shall be cut with a razor knife from the woven polyester side.

The stress relief membrane shall be placed at least two hours in advance of paving operations. If application must immediately precede the paving operation, hot-poured joint sealer may be required as a tack coat to bond the stress relief membrane to the existing surface.

(c) Traffic Exposure. Exposing the membrane to traffic shall be minimized. Small amounts of washed sand may be used to blot excess asphalt cement tack coat when necessary to facilitate movement of traffic or construction equipment over the membrane prior to placement of the overlay. Damaged membranes shall be removed and replaced.

(d) Paving Tack Coat/Paving. Paving operations shall only begin when the membrane is thoroughly bonded to the existing surface. The membrane may be exposed to moisture and rain prior to the application of the overlay, however, the stress relief membrane must be dry at the time the overlay is placed.

A slow-set emulsified asphalt paving tack coat (such as SS-1, SS-1h, CSS-1, or CSS-1h) shall be applied prior to paving over the membrane. Cutback asphalts shall not be used. Hot-mix asphalt or dry washed sand may be placed ahead of the paver if the membrane is sticking to the tires of the paving equipment. The minimum asphalt overlay thickness (total) shall be 2 in. (50 mm) compacted.

When using a vibratory roller for compaction, it shall be set to the lowest amplitude and highest frequency settings."

Add the following Article to the Standard Specifications:

"1062.04 Reflective Crack Control System D. The stress relief membrane shall be 36 in. (900 mm) wide and 0.15 in. (4 mm) thick and shall be a system of materials manufactured in a composite three layer fashion with the following properties.

Stress Relief Membrane		
Property	Value	Test Method

Cold Flex	No cracking or separation of fabric	ASTM D 146 (modified)
Tensile Strength (Peak)	4,000 psi (700 N/mm) min.	ASTM D 412 (modified)
Elongation (at Peak Tensile)	10% min.	ASTM D 412 (modified)
Weight	0.76 lbs/sq ft (3.7 kg/sq m)	
Density (mastic)	69 lbs/cu ft (1100 kg/cu m) min.	ASTM D 70
Thickness	0.15 in. (4 mm)	ASTM E 154-93 Subsection 10.0 ASTM D 1790
Absorption (mastic)	1 % max.	ASTM D 517
Brittleness	Passes	ASTM D 517
Softening Point (mastic)	220 °F (104 °C)	ASTM D 36

The bottom layer of the composite shall be a low strength, nonwoven, geotextile and shall be according to AASHTO M 288-92. The bottom geotextile shall be designed to fully bond with the existing pavement with the help of a tack coat. It shall be capable of accommodating sufficiently large stresses at the joint/crack without breaking its bond with the slab. The middle layer of the composite shall be a viscoelastic membrane designed to prevent water entry into the pavement through the cracks and/or joints in the pavement. It also acts as a stress absorbing member interlayer between the overlay and the underlying pavement. The top layer shall be a high strength woven geotextile with a tensile strength of 4,000 psi (700 N/mm) at five percent strain according to ASTM D 4595. The top geotextile shall be designed to fully bond with the overlay and provide high stiffness and reinforcement to the overlay.

The stress relief membrane shall be stored in an inside enclosure with temperatures not exceeding 120 °F (49 °C). Any material that becomes wet prior to installation shall be removed from the jobsite and discarded.

The grade of asphalt binder tack coat shall be PG 64-22, PG 58-28, or PG 52-28 and shall meet the requirements of Article 1032.05.

Emulsified asphalt for tack coat shall be SS-1, SS-1h, CSS-1, CSS-1h, CSS1hP, or SS-1hP and shall meet the requirements of Article 1032.06.

The manufacturer shall furnish a certification with each shipment of stress relief membrane, stating the amount of product furnished, and that the material complies with these requirements."

80160

REFLECTIVE SHEETING ON CHANNELIZING DEVICES (BDE)

Effective: April 1, 2007

Revise the seventh paragraph of Article 1106.02 of the Standard Specifications to read:

"At the time of manufacturing, the retroreflective prismatic sheeting used on channelizing devices shall meet or exceed the initial minimum coefficient of retroreflection as specified in the following table. Measurements shall be conducted according to ASTM E 810, without averaging. Sheeting used on cones, drums and flexible delineators shall be reboundable as tested according to ASTM D 4956. Prestriped sheeting for rigid substrates on barricades shall be white and orange.

Initial Minimum Coefficient of Retroreflection candelas/foot candle/sq ft (candelas/lux/sq m) of material				
Observation Angle (deg.)	Entrance Angle (deg.)	White	Orange	Fluorescent Orange
0.2	-4	365	160	150
0.2	+30	175	80	70
0.5	-4	245	100	95
0.5	+30	100	50	40"

Revise the first sentence of the first paragraph of Article 1106.02(c) of the Standard Specifications to read:

"Barricades and vertical panels shall have alternating white and orange stripes sloping downward at 45 degrees toward the side on which traffic will pass."

Revise the third sentence of the first paragraph of Article 1106.02(d) of the Standard Specifications to read:

"The bottom panels shall be 8 x 24 in. (200 x 600 mm) with alternating white and orange stripes sloping downward at 45 degrees toward the side on which traffic will pass."

80183

REINFORCEMENT BARS (BDE)

Effective: November 1, 2005

Revised: January 1, 2007

Revise Article 1006.10(a) of the Standard Specifications to read:

"(a) Reinforcement Bars. Reinforcement bars will be accepted according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reinforcement Bar and Dowel Bar Plant Certification Procedure". The Department will maintain an approved list of producers.

(1) Reinforcement Bars (Non-Coated). Reinforcement bars shall be according to ASTM A 706 (A 706M), Grade 60 (420) for deformed bars and the following.

a. Chemical Composition. The chemical composition of the bars shall be according to the following table.

CHEMICAL COMPOSITION		
Element ^{1/}	Heat Analysis (% maximum)	Product Analysis (% maximum)
Carbon	0.30	0.33
Manganese	1.50	1.56
Phosphorus	0.035	0.045
Sulfur	0.045	0.055
Silicon	0.50	0.55
Nickel	2/	2/
Chromium	2/	2/
Molybdenum	2/	2/
Copper	2/	2/
Titanium	2/	2/
Vanadium	2/	2/
Columbium	2/	2/
Aluminum	2/, 3/	2/, 3/
Tin ^{4/}	0.040	0.044

Note 1/. The bars shall not contain any traces of radioactive elements.

Note 2/. There is no composition limit but the element must be reported.

Note 3/. If aluminum is not an intentional addition to the steel for deoxidation or killing purposes, residual aluminum content need not be reported.

Note 4/. If producer bar testing indicates an elongation of 15 percent or more and passing of the bend test, the tin composition requirement may be waived.

- b. Heat Numbers. Bundles or bars at the construction site shall be marked or tagged with heat identification numbers of the bar producer.
 - c. Guided Bend Test. Bars may be subject to a guided bend test across two pins which are free to rotate, where the bending force shall be centrally applied with a fixed or rotating pin of a certain diameter as specified in Table 3 of ASTM A 706 (A 706M). The dimensions and clearances of this guided bend test shall be according to ASTM E 190.
 - d. Spiral Reinforcement. Spiral reinforcement shall be deformed or plain bars conforming to the above requirements or cold-drawn steel wire conforming to AASHTO M 32.
- (2) Epoxy Coated Reinforcement Bars. Epoxy coated reinforcement bars shall be according to Article 1006.10(a)(1) and shall be epoxy coated according to AASHTO M 284 (M 284M) and the following.
- a. Certification. The epoxy coating applicator shall be certified under the Concrete Reinforcing Steel Institute's (CRSI) Epoxy Plant Certification Program.
 - b. Coating Thickness. The thickness of the epoxy coating shall be 7 to 12 mils (0.18 to 0.30 mm). When spiral reinforcement is coated after fabrication, the thickness of the epoxy coating shall be 7 to 20 mils (0.18 to 0.50 mm).
 - c. Cutting Reinforcement. Reinforcement bars may be sheared or sawn to length after coating, providing the end damage to the coating does not extend more than 0.5 in. (13 mm) back and the cut is patched before any visible rusting appears. Flame cutting will not be permitted."

80151

REFLECTIVE SHEETING ON CHANNELIZING DEVICES (BDE)

Effective: April 1, 2007

Revise the seventh paragraph of Article 1106.02 of the Standard Specifications to read:

"At the time of manufacturing, the retroreflective prismatic sheeting used on channelizing devices shall meet or exceed the initial minimum coefficient of retroreflection as specified in the following table. Measurements shall be conducted according to ASTM E 810, without averaging. Sheeting used on cones, drums and flexible delineators shall be reboundable as tested according to ASTM D 4956. Prestriped sheeting for rigid substrates on barricades shall be white and orange.

Initial Minimum Coefficient of Retroreflection candelas/foot candle/sq ft (candelas/lux/sq m) of material				
Observation Angle (deg.)	Entrance Angle (deg.)	White	Orange	Fluorescent Orange
0.2	-4	365	160	150
0.2	+30	175	80	70
0.5	-4	245	100	95
0.5	+30	100	50	40"

Revise the first sentence of the first paragraph of Article 1106.02(c) of the Standard Specifications to read:

"Barricades and vertical panels shall have alternating white and orange stripes sloping downward at 45 degrees toward the side on which traffic will pass."

Revise the third sentence of the first paragraph of Article 1106.02(d) of the Standard Specifications to read:

"The bottom panels shall be 8 x 24 in. (200 x 600 mm) with alternating white and orange stripes sloping downward at 45 degrees toward the side on which traffic will pass."

80183

SELF-CONSOLIDATING CONCRETE FOR CAST-IN-PLACE CONSTRUCTION (BDE)

Effective: November 1, 2005

Revised: January 1, 2007

Definition. Self-consolidating concrete is a flowable mixture that does not require mechanical vibration for consolidation.

Usage. Self-consolidating concrete may be used for cast-in-place concrete construction items involving Class MS, DS, and SI concrete.

Materials. Materials shall be according to Section 1021 of the Standard Specifications.

Mix Design Criteria. Article 1020.04 of the Standard Specifications shall apply, except as follows:

- (a) The cement factor shall be according to Article 1020.04 of the Standard Specifications. If the maximum cement factor is not specified, it shall not exceed 7.05 cwt/cu yd (418 kg/cu m). The cement factor shall not be reduced if a water-reducing, retarding, or high range water-reducing admixture is used.
- (b) The maximum allowable water/cement ratio shall be according to Article 1020.04 of the Standard Specifications or 0.44, whichever is lower.
- (c) The slump requirements shall not apply.
- (d) The coarse aggregate gradations shall be CA 13, CA 14, CA 16, or a blend of these gradations. CA 11 may be used when the Contractor provides satisfactory evidence to the Engineer that the mix will not segregate. The fine aggregate proportion shall be a maximum 50 percent by weight (mass) of the total aggregate used.
- (e) The slump flow range shall be ± 2 in. (± 50 mm) of the Contractor target value, and within the overall Department range of 20 in. (510 mm) minimum to 28 in. (710 mm) maximum.
- (f) The visual stability index shall be a maximum of 1.
- (g) The J-ring value shall be a maximum of 4 in. (100 mm). The Contractor may specify a lower maximum in the mix design.
- (h) The L-box blocking ratio shall be a minimum of 60 percent. The Contractor may specify a higher minimum in the mix design.
- (i) The column segregation index shall be a maximum 15 percent.
- (j) The hardened visual stability index shall be a maximum of 1.

Test Methods. Illinois Test Procedures SCC-1, SCC-2, SCC-3, SCC-4, SCC-5, SCC-6, and Illinois Modified AASHTO T 22, 23, 121, 126, 141, 152, 177, 196, and 309 shall be used for testing of self-consolidating concrete mixtures.

Mix Design Submittal. The Contractor's Level III PCC Technician shall submit a mix design according to the "Portland Cement Concrete Level III Technician" course manual, except target slump information is not applicable and will not be required. However, a slump flow target range shall be submitted. In addition, the design mortar factor may exceed 1.10 and durability test data will be waived.

A J-ring value shall be submitted if a lower mix design maximum will apply. An L-box blocking ratio shall be submitted if a higher mix design minimum will apply. The Contractor shall also indicate applicable construction items for the mix design.

| Trial mixture information will be required by the Engineer. A trial mixture is a batch of concrete tested by the Contractor to verify the Contractor's mix design will meet specification requirements. Trial mixture information shall include test results as specified in the "Portland Cement Concrete Level III Technician" course manual. Test results shall also include slump flow, visual stability index, J-ring value, L-box blocking ratio, column segregation index, and hardened visual stability index. For the trial mixture, the slump flow shall be near the midpoint of the proposed slump flow target range.

| Trial Batch. A minimum 2 cu yd (1.5 cu m) trial batch shall be produced, and the self-consolidating concrete admixture dosage proposed by the Contractor shall be used. The slump flow shall be within 1.0 in. (25 mm) of the maximum slump flow range specified by the Contractor, and the air content shall be within the top half of the allowable specification range.

The trial batch shall be scheduled a minimum of 21 calendar days prior to anticipated use and shall be performed in the presence of the Engineer.

The Contractor shall provide the labor, equipment, and materials to test the concrete. The mixture will be evaluated by the Engineer for strength, air content, slump flow, visual stability index, J-ring value, L-box blocking ratio, column segregation index, and hardened visual stability index.

Upon review of the test data from the trial batch, the Engineer will verify or deny the use of the mix design and notify the Contractor. Verification by the Engineer will include the Contractor's target slump flow range. If applicable, the Engineer will verify the Contractor's maximum J-ring value and minimum L-box blocking ratio.

| A new trial batch will be required whenever there is a change in the source of any component material, proportions beyond normal field adjustments, dosage of the self-consolidating concrete admixture, batch sequence, mixing speed, mixing time, or as determined by the Engineer. The testing criteria for the new trial batch will be determined by the Engineer.

When necessary, the trial batches shall be disposed of according to Article 202.03 of the Standard Specifications.

Mixing Portland Cement Concrete. In addition to Article 1020.11 of the Standard Specifications, the mixing time for central-mixed concrete shall not be reduced as a result of a mixer performance test. Truck-mixed or shrink-mixed concrete shall be mixed in a truck mixer for a minimum of 100 revolutions.

Wash water, if used, shall be completely discharged from the drum or container before the succeeding batch is introduced.

The batch sequence, mixing speed, and mixing time shall be appropriate to prevent cement balls and mix foaming for central-mixed, truck-mixed, and shrink-mixed concrete.

Falsework and Forms. In addition to Articles 503.05 and 503.06 of the Standard Specifications, the Contractor shall consider the fluid nature of the concrete for designing the falsework and forms. Forms shall be tight to prevent leakage of fluid concrete.

Placing and Consolidating. Concrete placement and consolidation shall be according to Article 503.07 of the Standard Specifications, except as follows:

Revise the third paragraph of Article 503.07 of the Standard Specifications to read:

"Open troughs and chutes shall extend as nearly as practicable to the point of deposit. The drop distance of concrete shall not exceed 5 ft (1.5 m). If necessary, a tremie shall be used to meet this requirement. The maximum distance of horizontal flow from the point of deposit shall be 25 ft (7.6 m), unless approved otherwise by the Engineer. For drilled shafts, free fall placement will not be permitted."

Delete the seventh, eighth, ninth, and tenth paragraphs of Article 503.07 of the Standard Specifications.

Add to the end of the eleventh paragraph of Article 503.07 of the Standard Specifications the following:

"Concrete shall be rodded with a piece of lumber, conduit, or vibrator if the material has lost its fluidity prior to placement of additional concrete. The vibrator shall be the pencil head type with a maximum diameter or width of 1 in. (25 mm). Any other method for restoring the fluidity of the concrete shall be approved by the Engineer."

Quality Control by Contractor at Plant. The specified test frequencies for aggregate gradation, aggregate moisture, air content, unit weight/yield, and temperature shall be performed as indicated in the contract plans.

Slump flow, visual stability index, and J-ring or L-box tests shall be performed as needed to control production. The column segregation index test and hardened visual stability index test will not be required to be performed at the plant.

Quality Control by Contractor at Jobsite. The specified test frequencies for air content, strength, and temperature shall be performed as indicated in the contract plans.

Slump flow, visual stability index, and J-ring or L-box tests shall be performed on the first two truck deliveries of the day, and every 50 cu yd (40 cu m) thereafter. The Contractor shall select either the J-ring or L-box test for jobsite testing.

The column segregation index test will not be required to be performed at the jobsite. The hardened visual stability index test shall be performed on the first truck delivery of the day, and every 300 cu yd (230 cu m) thereafter. Slump flow, visual stability index, J-ring value or L-box blocking ratio, air content, and concrete temperature shall be recorded for each hardened visual stability index test.

The Contractor shall retain all hardened visual stability index cut cylinder specimens until the Engineer notifies the Contractor that the specimens may be discarded.

If mix foaming or other potential detrimental material is observed during placement or at the completion of the pour, the material shall be removed while the concrete is still plastic.

Quality Assurance by Engineer at Plant. For air content and aggregate gradation, quality assurance independent sample testing and split sample testing will be performed as indicated in the contract plans.

For slump flow, visual stability index, and J-ring or L-box tests, quality assurance independent sample testing and split sample testing will be performed as determined by the Engineer.

Quality Assurance by Engineer at Jobsite. For air content and strength, quality assurance independent sample testing and split sample testing will be performed as indicated in the contract plans.

For slump flow, visual stability index, J-ring or L-box, and hardened visual stability index tests, quality assurance independent sample testing will be performed as determined by the Engineer.

For slump flow and visual stability index quality assurance split sample testing, the Engineer will perform tests at the beginning of the project on the first three tests performed by the Contractor. Thereafter, a minimum of ten percent of total tests required of the Contractor will be performed per plant, which will include a minimum of one test per mix design. The acceptable limit of precision will be 1.5 in. (40 mm) for slump flow and a limit of precision will not apply to the visual stability index.

For the J-ring or the L-box quality assurance split sample testing, a minimum of 80 percent of the total tests required of the Contractor will be witnessed by the Engineer per plant, which will

include a minimum of one witnessed test per mix design. The Engineer reserves the right to conduct quality assurance split sample testing. The acceptable limit of precision will be 1.5 in. (40 mm) for the J-ring value and ten percent for the L-box blocking ratio.

For each hardened visual stability index test performed by the Contractor, the cut cylinders shall be presented to the Engineer for determination of the rating. The Engineer reserves the right to conduct quality assurance split sample testing. A limit of precision will not apply to the hardened visual stability index.

80152

SELF-CONSOLIDATING CONCRETE FOR PRECAST PRODUCTS (BDE)

Effective: July 1, 2004

Revised: January 1, 2007

Definition. Self-consolidating concrete is a flowable mixture that does not require mechanical vibration for consolidation.

Usage. Self-consolidating concrete may be used for precast concrete products.

Materials. Materials shall be according to Section 1021 of the Standard Specifications.

Mix Design Criteria. The mix design criteria shall be as follows:

- (a) The minimum cement factor shall be according to Article 1020.04 of the Standard Specifications. If the maximum cement factor is not specified, it shall not exceed 7.05 cwt/cu yd (418 kg/cu m).
- (b) The maximum allowable water/cement ratio shall be according to Article 1020.04 of the Standard Specifications or 0.44, whichever is lower.
- (c) The slump requirements of Article 1020.04 of the Standard Specifications shall not apply.
- (d) The coarse aggregate gradations shall be CA 13, CA 14, CA 16, or a blend of these gradations. CA 11 may be used when the Contractor provides satisfactory evidence to the Engineer that the mix will not segregate. The fine aggregate proportion shall be a maximum 50 percent by weight (mass) of the total aggregate used.
- (e) The slump flow range shall be ± 2 in. (± 50 mm) of the Contractor target value, and within the overall Department range of 20 in. (510 mm) minimum to 28 in. (710 mm) maximum.
- (f) The visual stability index shall be a maximum of 1.
- (g) The J-ring value shall be a maximum of 4 in. (100 mm). The Contractor may specify a lower maximum in the mix design.
- (h) The L-box blocking ratio shall be a minimum of 60 percent. The Contractor may specify a higher minimum in the mix design.
- (i) The column segregation index shall be a maximum 15 percent.
- (j) The hardened visual stability index shall be a maximum of 1.

Placing and Consolidating. The maximum distance of horizontal flow from the point of deposit shall be 25 ft (7.6 m), unless approved otherwise by the Engineer.

Concrete shall be rodded with a piece of lumber, conduit, or vibrator if the material has lost its fluidity prior to placement of additional concrete. The vibrator shall be the pencil head type with a maximum diameter or width of 1 in. (25 mm). Any other method for restoring the fluidity of the concrete shall be approved by the Engineer.

Mix Design Approval. The Contractor shall obtain mix design approval according to the Department's Policy Memorandum "Quality Control/Quality Assurance Program for Precast Concrete Products".

80132

STEEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)

Effective: April 2, 2004

Revised: April 1, 2007

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 fill out the form completely, shall make this contract exempt of steel cost adjustments.

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), frames and grates, and other miscellaneous items will be subject to a steel cost adjustment when the pay item 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) Evidence that increased or decreased steel costs have been passed on to the Contractor.
- (b) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.
- (c) 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)

$$D = CBP_M - CBP_L$$

Where: CBP_M = The average of the Consumer Buying Price indices for Shredded Auto Scrap (Chicago) and No. 1 Heavy Melt (Chicago) as published by the American Metal Market (AMM) for the day the steel is shipped from the mill. The indices will be converted from dollars per ton to dollars per lb (kg).

CBP_L = The average of the Consumer Buying Price indices for Shredded Auto Scrap (Chicago) and No. 1 Heavy Melt (Chicago) as published by the AMM for the day the contract is let. The indices will be converted from dollars per ton 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 CBP_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 CBP_L and CBP_M in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(CBP_L - CBP_M) \div CBP_L\} \times 100$$

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 failure to fill out the form completely, shall make this contract exempt of steel 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 plans?

Yes No

Signature: _____ **Date:** _____

80127

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)

Effective: April 2, 2005

To account for the preparatory work and operations necessary for the movement of subcontractor personnel, equipment, supplies, and incidentals to the project site and for all other work or operations that must be performed or costs incurred when beginning work approved for subcontracting in accordance with Article 108.01 of the Standard Specifications, the Contractor shall make a mobilization payment to each subcontractor.

This mobilization payment shall be made at least 14 days prior to the subcontractor starting work. The amount paid shall be equal to 3 percent of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor's work.

This provision shall be incorporated directly or by reference into each subcontract approved by the Department.

80143

TEMPORARY EROSION CONTROL (BDE)

Effective: November 1, 2002

Revised: August 1, 2007

Revise the third paragraph of Article 280.03 of the Standard Specifications to read:

"Erosion control systems shall be installed prior to beginning any activities which will potentially create erodible conditions. Erosion control systems for areas outside the limits of construction such as storage sites, plant sites, waste sites, haul roads, and Contractor furnished borrow sites shall be installed prior to beginning soil disturbing activities at each area. These offsite systems shall be designed by the Contractor and be subject to the approval of the Engineer."

Add the following paragraph after the third paragraph of Article 280.03 of the Standard Specifications:

"The temporary erosion and sediment control systems shown on the plans represent the minimum systems anticipated for the project. Conditions created by the Contractor's operations, or for the Contractor's convenience, which are not covered by the plans, shall be protected as directed by the Engineer at no additional cost to the Department. Revisions or modifications of the erosion and sediment control systems shall have the Engineer's written approval."

Revise the second sentence of the first paragraph of Article 280.04(a) of the Standard Specifications to read:

"Temporary ditch checks shall be constructed with rolled excelsior, products from the Department's approved list, or with aggregate when specified."

Add the following paragraph after the ninth paragraph of Article 280.07 of the Standard Specifications:

"Temporary or permanent erosion control systems required for areas outside the limits of construction will not be measured for payment."

Delete the tenth (last) paragraph of Article 280.08 of the Standard Specifications.

Revise Article 1081.15(f) of the Standard Specifications to read:

"(f) Rolled Excelsior. Rolled excelsior shall consist of an excelsior fiber filling totally encased inside netting and sealed with metal clips or knotted at the ends. Each roll shall be a minimum of 20 in. (500 mm) in diameter and a minimum of 10 ft (3 m) in length. Each 10 ft (3 m) roll shall have a minimum weight (mass) of 30 lbs (13.6 kg). The excelsior fiber filling shall be weed free. At least 80 percent of the fibers shall be a minimum of 6 in. (150 mm) in length. The fiber density shall be a minimum of

1.38 lb/cu ft (22 kg/cu m). The netting shall be composed of a polyester or polypropylene material which retains 70 percent of its strength after 500 hours of exposure to sunlight. The maximum opening of the net shall be 1 x 1 in. (25 x 25 mm)."

80087

THERMOPLASTIC PAVEMENT MARKINGS (BDE)

Effective: January 1, 2007

Revise Article 1095.01(a)(2) of the Standard Specifications to read:

- "(2) Pigment. The pigment used for the white thermoplastic compound shall be a high-grade pure (minimum 93 percent) titanium dioxide (TiO₂). The white pigment content shall be a minimum of ten percent by weight and shall be uniformly distributed throughout the thermoplastic compound.

The pigments used for the yellow thermoplastic compound shall not contain any hazardous materials listed in the Environmental Protection Agency Code of Federal Regulations (CFR) 40, Section 261.24, Table 1. The combined total of RCRA listed heavy metals shall not exceed 100 ppm when tested by X-ray fluorescence spectroscopy. The pigments shall also be heat resistant, UV stable and color-fast yellows, golds, and oranges, which shall produce a compound which shall match Federal Standard 595 Color No. 33538. The pigment shall be uniformly distributed throughout the thermoplastic compound."

Revise Article 1095.01(b)(1)e. of the Standard Specifications to read:

- "e. Daylight Reflectance and Color. The thermoplastic compound after heating for four hours \pm five minutes at 425 ± 3 °F (218.3 ± 2 °C) and cooled at 77 °F (25 °C) shall meet the following requirements for daylight reflectance and color, when tested, using a color spectrophotometer with 45 degree circumferential/zero degree geometry, illuminant C, and 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.

White: Daylight Reflectance75 percent min.

*Yellow: Daylight Reflectance45 percent min.

*Shall meet the coordinates of the following color tolerance chart.

x	0.490	0.475	0.485	0.530
y	0.470	0.438	0.425	0.456"

Revise Article 1095.01(b)(1)k. of the Standard Specifications to read:

- "k. Accelerated Weathering. After heating the thermoplastic for four hours \pm five minutes at 425 ± 3 °F (218.3 ± 2 °C) the thermoplastic shall be applied to a steel wool abraded aluminum alloy panel (Federal Test Std. No. 141, Method 2013) at a film thickness of 30 mils (0.70 mm) and allowed to cool for 24 hours at room temperature. The coated panel shall be subjected to accelerated weathering

using the light and water exposure apparatus (fluorescent UV - condensation type) for 75 hours according to ASTM G 53 (equipped with UVB-313 lamps).

The cycle shall consist of four hours UV exposure at 122 °F (50 °C) followed by four hours of condensation at 104 °F (40 °C). UVB 313 bulbs shall be used. At the end of the exposure period, the panel shall not exceed 10 Hunter Lab Delta E units from the original material."

80176

TRAINING SPECIAL PROVISIONS (BDE) This Training Special Provision supersedes Section 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities," and is in implementation of 23 U.S.C. 140(a).

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be 6. In the event the contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within the reasonable area of recruitment. Prior to commencing construction, the contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the contractor shall specify the starting time for training in each of the classifications. The contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g. by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the contractor and approved by the Illinois Department of Transportation and the Federal Highway Administration. The Illinois Department of Transportation and the Federal Highway Administration shall approve a program, if it is reasonably calculated to meet the equal employment opportunity obligations of the contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved by not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirement of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The contractor shall furnish the trainee a copy of the program he will follow in providing the training. The contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

METHOD OF MEASUREMENT The unit of measurement is in hours.

BASIS OF PAYMENT This work will be paid for at the contract unit price of 80 cents per hour for TRAINEES. The estimated total number of hours, unit price and total price have been included in the schedule of prices.

20338

WATER BLASTER WITH VACUUM RECOVERY (BDE)

Effective: April 1, 2006

Revised: January 1, 2007

Add the following to Article 783.02 of the Standard Specifications.

“(c) Water Blaster with Vacuum Recovery 1101.12”

Revise Article 1101.12 of the Standard Specifications to read.

“**1101.12 Water Blaster with Vacuum Recovery.** The water blaster shall remove the stripe from the pavement using a high pressurized water spray with a vacuum recovery system to provide a clean, almost dry surface, without the use of a secondary cleanup process. The removal shall be to the satisfaction of the Engineer. The equipment shall contain a storage system that allows for the storage of the wastewater while retaining the debris. The operator shall be in immediate control of the blast head.”

80163

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

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ATTACHMENTS

- A. Employment Preference for Appalachian Contracts
(included in Appalachian contracts only)

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.

4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

- Section I, paragraph 2;
- Section IV, paragraphs 1, 2, 3, 4 and 7;
- Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.

6. Selection of Labor: During the performance of this contract, the contractor shall not:

- a. Discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or
- b. Employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60 (and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

b. The contractor will accept as his operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job-training."

2. EEO Officer: The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for an must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above

agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employees referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish which such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any

evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to

the SHA and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or quailifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the

contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or

disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the question, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. Payment of Fringe Benefits:

a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any cost reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:

a. Apprentices:

(1) Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not

be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

(1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits

Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which cases such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Helpers:

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV. 2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. Apprentices and Trainees (Programs of the U.S. DOT):

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

6. Withholding:

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainee's and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

7. Overtime Requirements:

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. Violation:

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. Withholding for Unpaid Wages and Liquidated Damages:

The SHA shall; upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. Compliance with Copeland Regulations (29 CFR 3):

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. Payrolls and Payroll Records:

a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.

b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan

or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period).

The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V.

This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;

(2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;

(3) that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U/S. C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for

inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all federal-aid contracts on the national highway system, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:

a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.

b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.

c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractors' own organization (23 CFR 635).

a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a

whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract.

Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S. C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification,

distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

18 U.S.C. 1020 reads as follows:

“Whoever, being an officer, agent or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both.”

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more).

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of

any communication from the Director, Office of Federal Activities, EPA indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. Instructions for Certification - Primary Covered Transactions:

(Applicable to all Federal-aid contracts - 49 CFR 29)

a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.

d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms “covered transaction,” “debarred,” “suspended,” “ineligible,” “lower tier covered transaction,” “participant,” “person,” “primary covered transaction,” “principal,” “proposal,” and “voluntarily excluded,” as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled

"Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded from Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and
- d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where the prospective primary 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 Covered Transactions:

(Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

- a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
- b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
- c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
- d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
- e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
- f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.
- h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealing.
- i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

Certification Regarding Debarment, Suspension, Ineligibility And Voluntary Exclusion-Lower Tier Covered Transactions:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 - 49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**MINIMUM WAGES FOR FEDERAL AND FEDERALLY
ASSISTED CONSTRUCTION CONTRACTS**

This project is funded, in part, with Federal-aid funds and, as such, is subject to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Sta. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in a 29 CFR Part 1, Appendix A, as well as such additional statutes as may from time to time be enacted containing provisions for the payment of wages determined to be prevailing by the Secretary of Labor in accordance with the Davis-Bacon Act and pursuant to the provisions of 29 CFR Part 1. The prevailing rates and fringe benefits shown in the General Wage Determination Decisions issued by the U.S. Department of Labor shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

General Wage Determination Decisions, modifications and supersedes decisions thereto are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision, together with any modifications issued, must be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable DBRA Federal prevailing wage law and 29 CFR Part 5. The wage rates and fringe benefits contained in the General Wage Determination Decision shall be the minimum paid by contractors and subcontractors to laborers and mechanics.

NOTICE

The most current **General Wage Determination Decisions** (wage rates) are available on the IDOT web site. They are located on the Letting and Bidding page at <http://www.dot.state.il.us/desenv/delett.html>.

In addition, ten (10) days prior to the letting, the applicable Federal wage rates will be e-mailed to subscribers. It is recommended that all contractors subscribe to the Federal Wage Rates List or the Contractor's Packet through IDOT's subscription service.

PLEASE NOTE: if you have already subscribed to the Contractor's Packet you will automatically receive the Federal Wage Rates.

The instructions for subscribing are at <http://www.dot.state.il.us/desenv/subsc.html>.

If you have any questions concerning the wage rates, please contact IDOT's Chief Contract Official at 217-782-7806.