

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.

2W

Proposal Submitted By
Name
Address
City

Letting **March 10, 2006**

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



ILLINOIS DEPARTMENT OF NATURAL RESOURCES
 Office of Water Resources

**Des Plaines River – Rand Park Flood Control
 Phase III
 Floodwall, Berm and Bike Trail
 Des Plaines, Illinois
 Cook County
 FR- 416**

PLEASE MARK THE APPROPRIATE BOX BELOW:

A Bid Bond is included.

A Cashier's Check or a Certified Check is included

Prepared by	
Checked by	F

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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Prequalification and/or Authorization to Bid	217/782-3413
Preparation and submittal of bids	217/782-7806
Mailing of CD-ROMS	217/782-7806

BID RETURN WITH



ILLINOIS
DEPARTMENT OF
NATURAL RESOURCES
Office of Water Resources

PROPOSAL

TO THE DEPARTMENT OF NATURAL RESOURCES

1. Proposal of _____

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

**2W Des Plaines River – Rand Park Flood Control
Phase III
Floodwall, Berm and Bike Trail
Des Plaines, Illinois Cook County FR- 416**

The improvement consists of constructing a concrete capped steel sheet pile flood control wall and an earthen levee, some roadway reconstruction on Campground Road, Dempster Street and Rand Road, a concrete box culvert under Dempster Street, a recreational trail on fill, and riprap bank erosion protection along the Des Plaines River from just downstream of the Union Pacific Railroad upstream to Rand Road; constructing a flood control levee from Rand Road to the I-294 Tollway onramp from Dempster Street; a steel gate closure structure across Rand Road and another across Ballard Road; construction of miscellaneous storm sewers, manholes, catch basins, inlets, outlet drains, check valves, water detention areas, and pump stations to handle local drainage along the aforementioned items; a 96" diameter flexible check valve and headwall on the Golf Road interceptor on Big Bend Lake; a lighting system and electric service connection and installation for the recreational trail; a water main relocation; miscellaneous demolitions and modifications; along with all appurtenant work necessary to complete the project in the city of Des Plaines, Illinois.

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 Natural Resources and 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 Natural Resources, 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	\$3,000,000	to	\$5,000,000	\$150,000
\$10,000	to	\$50,000	\$5,000,000	to	\$7,500,000	\$250,000
\$50,000	to	\$100,000	\$7,500,000	to	\$10,000,000	\$400,000
\$100,000	to	\$150,000	\$10,000,000	to	\$15,000,000	\$500,000
\$150,000	to	\$250,000	\$15,000,000	to	\$20,000,000	\$600,000
\$250,000	to	\$500,000	\$20,000,000	to	\$25,000,000	\$700,000
\$500,000	to	\$1,000,000	\$25,000,000	to	\$30,000,000	\$800,000
\$1,000,000	to	\$1,500,000	\$30,000,000	to	\$35,000,000	\$900,000
\$1,500,000	to	\$2,000,000	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.

DES PLAINES RIVER - RAND PARK FLOOD CONTROL
 PHASE 3
 FLOODWALL, BERM AND BIKE TRAIL
 DES PLAINES, ILLINOIS
 COOK COUNTY
 FR-416

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CENTS
1	Tree Removal, Acres	acre	5.3				
2	Tree Trunk Protection	each	7				
3	Earth Excavation	cu yd	13,249				
4	Trench Backfill	cu yd	842				
5	Topsoil Furnish and Place, 6"	sq yd	25,400				
6	Exploration Trench 48" Depth	foot	450				
7	Erosion Control Blanket	sq yd	15,991				
8	Temporary Erosion Control Seeding	pound	1000				
9	Temporary Ditch Checks	each	6				
10	Perimeter Erosion Barrier	foot	3,999				
11	Inlet and Pipe Protection	each	9				
12	Stone Dumped Riprap, Class A3	sq yd	3,200				
13	Sub-base Granular Material, Type B	cu yd	450				
14	Sub-base Granular Material, Type B 4"	sq yd	4,940				
15	Sub-base Granular Material, Type B 6"	sq yd	882				

DES PLAINES RIVER - RAND PARK FLOOD CONTROL
 PHASE 3
 FLOODWALL, BERM AND BIKE TRAIL
 DES PLAINES, ILLINOIS
 COOK COUNTY
 FR-416

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CENTS
16	Bridge Approach Pavement (Special)	sq yd	358				
17	Bridge Approach Pavement Connector (PCC)	sq yd	61				
18	Combination Concrete Curb and Gutter Removal and Replacement	foot	165				
19	Portland Cement Concrete Sidewalk 5 inch	sq ft	6,765				
20	Portland Cement Concrete Sidewalk 8 inch	sq ft	150				
21	Temporary Sidewalk	sq ft	410				
22	Pavement Removal	sq yd	950				
23	Combination Curb and Gutter Removal	foot	134				
24	Sidewalk Removal	sq ft	3,880				
25	Approach Slab Removal	sq yd	419				
26	Pavement Replacement	sq yd	735				
27	Aggregate Shoulders, Type A 4"	sq yd	1,046				
28	Removal of Existing Structures	l sum	1				
29	Concrete Headwall Removal	each	4				
30	Structure Excavation	cu yd	3,221				

DES PLAINES RIVER - RAND PARK FLOOD CONTROL
 PHASE 3
 FLOODWALL, BERM AND BIKE TRAIL
 DES PLAINES, ILLINOIS
 COOK COUNTY
 FR-416

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CENTS
31	Concrete Structures	cu yd	1,754				
32	Concrete Superstructure	cu yd	8				
33	Protective Coat	sq yd	10,696				
34	Stud Shear Connectors	each	17,283				
35	Reinforcement Bars, Epoxy Coated	pound	168,983				
36	Steel Sheet Piling	sq ft	90,473				
37	Temporary Sheet Piling	sq ft	2,030				
38	Concrete Box Culverts	cu yd	147				
39	Precast Reinforced Concrete Flared End Sections 12"	each	5				
40	Precast Reinforced Concrete Flared End Sections 15"	each	2				
41	Cast-in Place Reinforced Concrete End Sections 15"	each	2				
42	Cast-in Place Reinforced Concrete End Sections 24"	each	1				
43	Grating for Concrete Flared End Section 15"	each	1				
44	Storm Sewers, Type 1, Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe, Class IV 12	foot	71				
45	Storm Sewers, Type 1, Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe, Class IV 15	foot	8				

DES PLAINES RIVER - RAND PARK FLOOD CONTROL
 PHASE 3
 FLOODWALL, BERM AND BIKE TRAIL
 DES PLAINES, ILLINOIS
 COOK COUNTY
 FR-416

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CENTS
46	Storm Sewers, Type 2, Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe, Class III 12	foot	1,010				
47	Storm Sewers, Type 2, Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe, Class III 15	foot	70				
48	Storm Sewers, Type 2, Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe, Class III 18	foot	42				
49	Storm Sewers, Type 2, Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe, Class III 24	foot	131				
50	Storm Sewers, Type 2, Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe, Class III 36	foot	118				
51	Storm Sewers to be Cleaned 10"	foot	70				
52	Storm Sewers to be Cleaned 12"	foot	38				
53	Storm Sewers to be Cleaned 18"	foot	70				
54	Storm Sewers to be Cleaned 24"	foot	66				
55	Storm Sewer Removal 10"	foot	100				
56	Storm Sewer Removal 12"	foot	100				
57	Storm Sewer Removal 24"	foot	20				
58	Waterproofing Membrane System	sq_yd	119				
59	Catch Basins, Type A, 4'-Diameter, Type 8 Grate	each	1				
60	Catch Basins, Type C, Type 1 Frame, Open Lid	each	2				

DES PLAINES RIVER - RAND PARK FLOOD CONTROL
 PHASE 3
 FLOODWALL, BERM AND BIKE TRAIL
 DES PLAINES, ILLINOIS
 COOK COUNTY
 FR-416

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CENTS
61	Catch Basins, Type C, Type 8 Grate	each	2				
62	Manholes, Type A, 4'-Diameter, Type 1 Frame, Closed Lid	each	5				
63	Manholes, Type A, 5'-Diameter, Type 1 Frame, Closed Lid	each	2				
64	Manholes, Type A, 6'-Diameter, Type 1 Frame, Closed Lid	each	2				
65	Manholes, Type A, 6'-Diameter, with salvaged Frame and Lid	each	2				
66	Inlets, Type A, Type 8 Grate (24" Depth)	each	3				
67	Removing Manholes	each	6				
68	Combination Curb and Gutter, Type B-6.12	foot	149				
69	Combination Curb and Gutter, Type M-2.12	foot	371				
70	Steel Plate Beam Guard Rail, Type A	foot	86				
71	Steel Plate Beam Guard Rail, Type A (Special)	foot	200				
72	Guardrail Removal	foot	386				
73	Chain Link Fence, 6'	foot	118				
74	Chain Link Fence Removal	foot	1,016				
75	Engineer's Field Office, Type A	cal mo	22				

DES PLAINES RIVER - RAND PARK FLOOD CONTROL
 PHASE 3
 FLOODWALL, BERM AND BIKE TRAIL
 DES PLAINES, ILLINOIS
 COOK COUNTY
 FR-416

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CENTS
76	Mobilization	l sum	1				
77	Traffic Control and Protection (Special)	l sum	1				
78	Pavement Marking Tape, Type III - Letters and Symbols	sq ft	36				
79	Pavement Marking Tape, Type III 4"	foot	14,000				
80	Pavement Marking Tape, Type III 6"	foot	1,256				
81	Work Zone Pavement Marking Removal	sq ft	5,230				
82	Temporary Concrete Barrier	foot	240				
83	Relocate Temporary Concrete Barrier	foot	480				
84	Sign Panel - Type 1	sq ft	56				
81	Metal Post - Type B	foot	125				
82	Thermoplastic Pavement Marking - Line 4"	foot	10,728				
83	Thermoplastic Pavement Marking - Line 24"	foot	12				
84	Polyurea Pavement Marking - Line 4"	foot	5,012				
85	Polyurea Pavement Marking - Line 5"	foot	1,106				
86	Polyurea Pavement Marking - Line 24"	foot	11				

DES PLAINES RIVER - RAND PARK FLOOD CONTROL
 PHASE 3
 FLOODWALL, BERM AND BIKE TRAIL
 DES PLAINES, ILLINOIS
 COOK COUNTY
 FR-416

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CENTS
87	Aggregate for Temporary Access	ton	20				
88	Bar Splicers	each	72				
89	Controlled Low-strength material	cu yd	440				
90	Impact Attenuators (Temporary)	each	2				
91	Pipe Underdrains, Perforated PVC 6 inch	foot	350				
92	Turbidity Curtain	foot	2,506				
93	High Visibility Temporary Fencing	foot	1,815				
94	Furnishing and Installing Traffic Barrier Terminal, Type 1 Special	each	1				
95	Temporary Soil Retention System	sq ft	1,050				
96	Temporary Pavement	sq yd	228				
97	Bituminous Base Course Superpave 5"	sq yd	863				
98	Bituminous Concrete Surface Course, Superpave, Mix "C", N50	ton	99				
99	Bituminous Concrete Binder Course, Superpave, IL-19.0, N50	ton	111				
100	Construction Staking	l sum	1				
101	Portland Cement Concrete Bike Trail 6 inch	sq ft	44,452				

DES PLAINES RIVER - RAND PARK FLOOD CONTROL
 PHASE 3
 FLOODWALL, BERM AND BIKE TRAIL
 DES PLAINES, ILLINOIS
 COOK COUNTY
 FR-416

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CENTS
102	Seeding, Mulching and Fertilizing	acre	5.6				
103	Levee Embankment	cu yd	16,372				
104	Handrail, 54"	foot	2,118				
105	Handrail, 24"	foot	270				
106	Grating for Concrete Flared End Section 12"	each	1				
107	Remove, Store and Reerect Traffic Sign	each	10				
108	Remove, Store and Reerect Traffic Sign with Light	each	1				
109	Remove, Store and Reerect Campground Road Closure Swing Gate	each	1				
110	Big Bend Lake Pipe Extensions	I sum	1				
111	Wheels Pump Station Structure	I sum	1				
112	Wheels Pump Station Electrical Work	I sum	1				
113	Wheels Pump Station Pumps, Pump Controls, Piping and Appurtenances	I sum	1				
114	Miner Street Pump Station Structure	I sum	1				
115	Electric Service Connection - Miner Street Pump Station	I sum	1				
116	Electric Service Installation - Miner Street Pump Station	I sum	1				

DES PLAINES RIVER - RAND PARK FLOOD CONTROL
 PHASE 3
 FLOODWALL, BERM AND BIKE TRAIL
 DES PLAINES, ILLINOIS
 COOK COUNTY
 FR-416

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CENTS
117	Miner Street Pump Station Electrical Work	l sum	1				
118	Miner Street Pump Station Pumps, Pump Controls, Piping and Appurtenances	l sum	1				
119	Rand Road Flood Gate	l sum	1				
120	Ballard Road Flood Gate	l sum	1				
121	Tideflex for 6" Ductile Iron Pipe	each	1				
122	Tideflex for 12" Reinforced Concrete Pipe	each	3				
123	Tideflex for 15" Reinforced Concrete Pipe	each	2				
124	Tideflex for 24" Reinforced Concrete Pipe	each	2				
125	Tideflex for 36" Reinforced Concrete Pipe	each	1				
126	Tideflex for 96" Reinforced Concrete Pipe	each	1				
127	Micropile	each	8				
128	Micropile, Tension Test Pile	each	1				
129	Architectural Concrete Form Liner Finish	sq ft	24,602				
130	Miner Street Gate Structure	l sum	1				
131	Electric Service Connection - Bike Trail Lighting System	l sum	1				

DES PLAINES RIVER - RAND PARK FLOOD CONTROL PHASE II
PUMP STATION AND RAILROAD EMBANKMENT SEAL
DES PLAINES, ILLINOIS
COOK COUNTY
FR-415

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CENTS
132	Electric Service Installation - Bike Trail Lighting System	l sum	1				
133	Bike Trail Lighting System - Flood Control	l sum	1				
134	Bike Trail Lighting System - Des Plaines	l sum	1				
135	Miner Street Water Main Relocation	l sum	1				
136	Interceptor No. 9 Structure	l sum	1				
137	Temporary Curb and Gutter	foot	20				
138	1842 E. Miner Street Demolition and Modifications	l sum	1				
139	1844 E. Miner Street Demolition and Modifications	l sum	1				
140	Miner St. Stairs	l sum	1				
				TOTAL PROPOSAL			

- NOTE:
1. Each pay item should have a unit price and a total price.
 2. The unit price shall govern if no total price is shown or if there is a discrepancy between the product of the unit price multiplied by the quantity.
 3. If a unit price is omitted, the total price will be divided by the quantity in order to establish a unit price.
 4. A bid will be declared unacceptable if neither a unit price nor a total 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 \$150,691.00. Sixty percent of the salary is \$90,414.60.

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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. The Contractor certifies that it is not barred from being awarded a contract or subcontract under Section 50 of the Illinois Procurement Code (30 ILCS 500/50).

C. 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 government 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.

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.

(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 an 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 government 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.

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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 an 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 government 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. The Contractor certifies that it is not in default on an educational loan as provided in Public Act 85-827 (5 ILCS 385/1) (a partnership shall be considered barred if any partner is in default on an educational loan).

F. The Contractor is not prohibited from selling goods or services to the State of Illinois because it pays dues or fees on behalf of its employees or agents or subsidizes or otherwise reimburses them for payment of their dues or fees to any club which unlawfully discriminates (775 ILCS 25/1).

G. Under penalties of perjury, I certify that the name, taxpayer identification number, and legal status listed below are correct.

Name: _____

Taxpayer Identification Number:
Social Security Account Number _____
or
Federal Employer Identification Number _____

(If you are an individual, enter your name and SSAN as it appears on your Social Security Card. If completing this certification for a sole proprietorship, enter the owner's name followed by the name of the business and the owner's SSN. For all other entities, enter the name of the entity as used to apply for the entity's FEIN and the FEIN.)

Legal Status (Check one):

- Individual
- Owner of Sole Proprietorship
- Partnership
- Tax-exempt hospital or extended care facility
- Corporation providing or billing medical and/or health care services
- Corporation NOT providing or billing medical and/or health care service
- Governmental Entity
- Nonresident alien individual
- Estate or legal trust
- Foreign corporation, partnership, estate, or trust
- Other: _____

H. This certification is required by the Drug Free Workplace Act (30 ILCS 580/1) for contracts and grants effective January 1, 1992. The Drug Free Workplace Act requires that no grantee or Contractor shall receive a grant or be considered for the purposes of being awarded a contract from the State for the procurement of any property or services unless that the grantee or Contractor will provide a drug free workplace and that individuals must not engage in the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance in the performance of the contract or grant. False certification or violation of the certification may result in sanctions including, but not limited to, suspension of contract or grant payments, termination of the contract or grant and debarment of contracting or grant opportunities with the State for at least one (1) year but not more than five (5) years.

CONTRACTOR/GRANTEE: For the purpose of this certification, "grantee" or "contractor" means a corporation, partnership, or other entity with twenty-five (25) or more employees at the time of issuing the grant, or a department, division, or other unit thereof, directly responsible for the specific performance under a contract or grant of \$5,000 or more from the State.

The contractor/grantee certifies and agrees that it will provide a drug free workplace by:

(a) Publishing a statement:

- (1) Notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance, including cannabis, is prohibited in the grantee's or contractor's workplace.
- (2) Specifying the actions that will be taken against employees for violations of such prohibition.
- (3) Notifying the employee that, as a condition of employment on such contract or grant, the employee will:
 - (A) abide by the terms of the statement; and
 - (B) 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.

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- (b) Establishing a drug free awareness program to inform employees about:
 - (1) the dangers of drug abuse in the workplace;
 - (2) the grantee's or contractor's policy of maintaining a drug free workplace;
 - (3) any available drug counseling, rehabilitation, and employee assistance programs;
 - (4) the penalties that may be imposed upon employees for drug violations.
- (c) Providing a copy of the statement required by subparagraph (a) to each employee engaged in the performance of the contract or grant and to post the statement in a prominent place in the workplace.
- (d) Notifying the contracting or granting agency within ten (10) days after receiving notice under part (B) of paragraph (3) of subsection (a) above from an employee or otherwise receiving actual notice of such conviction.
- (e) Imposing a sanction on, or requiring the satisfactory participation in a drug abuse assistance or rehabilitation program by, any employee who is so convicted as required by section 5 of the Drug Free Workplace Act.
- (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 Drug Free Workplace Act.

INDIVIDUALS: If Contractor is an individual, or an individual doing business in the form of a sole proprietorship, the individual certifies that the individual will not engage in the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance in the performance of the contract. Contractor certifies that it will not engage in the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance in the performance of the contract. This requirement applies to contracts of more than \$5,000.

- I. In compliance with the State and Federal Constitutions, the Illinois Human Rights Act, the U.S. Civil Rights Act, and Section 504 of the Federal Rehabilitation Act, the Department of Central Management Services does not unlawfully discriminate in employment, contracts, or any other activity.

Contractor, its employees and subcontractors, agree not to commit unlawful discrimination and agree to comply with applicable provisions of the Illinois Human Rights Act, the Public Works Employment Discrimination Act, the U.S. Civil Rights Act and Section 504 of the Federal Rehabilitation Act, and rules applicable to each. The equal employment opportunity clause of the Department of Human Rights' rules is specifically incorporated herein.

The Americans with Disabilities Act (42 U.S.C. 12101 et seq.) and the regulations thereunder (28 CFR 35.130) (ADA) prohibit discrimination against persons with disabilities by the State, whether directly or through contractual arrangements, in the provision of any aid, benefit or service. As a condition of receiving this contract, the undersigned contractor certifies that services, programs and activities provided under this contract are and will continue to be in compliance with the ADA.

- J. Contractor certifies he/she has informed the director of the agency in writing if he/she was formerly employed by that agency and has received an early retirement incentive under Section 40 ILCS 5/14-108.3 or 40 ILCS 5/16-133.3 of the Illinois Pension Code. Contractor acknowledges and agrees that if such early retirement incentive was received, this contract is not valid unless the official executing the contract has made the appropriate filing with the Auditor General prior to execution.
- 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.**

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

- L. RETENTION OF RECORDS:** The Contractor or subcontractor shall maintain books and records relating to the performance of the contract or subcontract and necessary to support amounts charged to the State under the contract or subcontract. The books and records shall be maintained by the Contractor for a period of 3 years from the later of the date of final payment under the contract or completion of the contract and by the subcontractor for a period of 3 years from the later of the date of final payment under the subcontract or completion of the subcontract. However, the 3-year period shall be extended for the duration of any audit in progress at the time of that period's expiration. All books and records shall be available for review and audit by the Auditor General and the purchasing agency. The Contractor agrees to cooperate fully with any audit conducted by the Auditor General and to provide full access to all relevant materials. Failure to maintain the books and records required by this Section shall establish a presumption in favor of the State for the recovery of any funds paid by the State under the contract for which required books and records are not available. (30 ILCS 500/20-65).
- M. SEXUAL HARASSMENT:** Pursuant to 775 ILCS 5/2-105(A)(4), contractor shall have written sexual harassment policies that shall include, at a minimum, the following information: (i) the illegality of sexual harassment; (ii) the definition of sexual harassment under State law; (iii) a description of sexual harassment, utilizing examples; (iv) the Contractor's internal complaint process including penalties; (v) the legal recourse, investigative and complaint process available through the Department of Human Rights and the Human Rights Commission; (vi) directions on how to contact the Department and Commission; and (vii) protection against retaliation as provided by Section 6-101 of the Illinois Human Rights Act. A copy of the policies shall be provided to the Department upon request.
- N.** For contracts exceeding \$10,000, the Contractor certifies that neither it 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.
- O.** Contractor shall notify the Department's Ethics Officer if Contractor solicits or intends to solicit for employment any of the Department's employees during any part of the procurement process or during the term of the contract.
- P. WAGES OF LABORERS, MECHANICS AND OTHER WORKMEN:** If applicable, the Contractor shall be required to observe and comply with provisions of the "Prevailing Wage Act," 820 ILCS 130/1 *et seq.*, which applies to the wages of laborers, mechanics and other workers employed in any public works.
- Q.** 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 he knows or should know that he, 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 he, 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 null and 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.
- R.** The Contractor certifies in accordance with Public Act 93-0307 that no foreign-made equipment, materials, or supplies furnished to the State under the contract have been produced in whole or in part by forced labor, convict labor, or indentured labor under penal sanction.
- S.** The Contractor certifies in accordance with 30 ILCS 500/50-10.5 that no officer, director, partner or 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, 815 ILCS 5/1 *et seq.*, 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.
- T.** The Contractor certifies this agreement is in compliance with the requirements of the Corporate Accountability for Tax Expenditure Act (PA 93-0552).
- U.** The contractor certifies in accordance with 30 ILCS 500/50-14 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 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.
- V.** The Contractor certifies in accordance with Public Act 94-0264 that no foreign made equipment, materials or supplies furnished to the State under the contract have been produced in whole or part by the labor of any child under the age of 12.
- W. 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.

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The undersigned acknowledges and agrees that each of the certifications or amendments shall be incorporated into and made a part of the invitation for bids, request for proposals, agreement, contract, amendment, renewal or other similar document to which these certifications are attached.

CONTRACTOR:

BY: _____

TITLE: _____

DHR Public Contract Number*: _____

(* Department of Human Rights Public Contract Number. Each Contractor having 15 or more employees must have a current Public Contract number or have proof of having submitted a completed application for one. Application forms may be obtained by contacting the Department of Human Rights, Public Contracts Section, 100 W. Randolph, 10th Floor, Chicago, Illinois 60601 or calling 312/814-2432 (TDD 312/263-1579). In the space provided, show your Public Contract Number or, if not available, the date a completed application for the number was submitted to the Department of Human Rights. Contractors with less than 15 employees may indicate "not applicable".

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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 \$90,414.60? YES ___ NO ___
 3. Does anyone in your organization receive more than \$90,414.60 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 \$90,414.60? 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:

**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 \$90,414.60 (60% of the Governor's salary). **(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 \$90,414.60, (60% of the Governor's salary) 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 \$90,414.60, (60% of the Governor's salary) 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 \$90,414.60, (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 the 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 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 \$90,414.60, (60 % of the Governor's salary as of 7/1/01) provide the name of your spouse and/or minor children, the name of the State agency for which he/she is employed and his/her annual salary. _____
3. If your spouse or any minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds \$90,414.60, (60% of the salary of the Governor as of 7/1/01) are you entitled to receive (i) more then 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 \$90,414.60, (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 the 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 ___

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

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

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

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

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

RETURN WITH 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:

Signature of Individual or Authorized Representative

Date

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

RETURN WITH BID/OFFER

**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 on behalf of the Illinois Department of Natural Resources:

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 Natural Resources 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 Natural Resources 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 Natural Resources with respect to these requirements.

RETURN WITH BID



ILLINOIS
DEPARTMENT OF
NATURAL RESOURCES
Office of Water Resources

Des Plaines River – Rand Park Flood Control
Phase III
Floodwall, Berm and Bike Trail
Des Plaines, Illinois Cook County FR- 416

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			
	M	F	BLACK		HISPANIC		*OTHER MINOR.		APPRENTICES		ON THE JOB TRAINEES	
			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

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 _____

 Address _____

Telephone Number _____

NOTICE REGARDING SIGNATURE

<p>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.</p>

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 _____

PROPOSAL SIGNATURE SHEET

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

(IF AN INDIVIDUAL)

Firm Name _____

Signature of Owner _____

Business Address _____

(IF A CO-PARTNERSHIP)

Firm Name _____

By _____

Business Address _____

Name and Address of All Members of the Firm:

(IF A CORPORATION)

Corporate Name _____

By _____

Signature of Authorized Representative _____

Typed or printed name and title of Authorized Representative _____

Attest _____

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

Signature _____

(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.



ILLINOIS
DEPARTMENT OF
NATURAL RESOURCES
Office of Water Resources

RETURN WITH BID

**Des Plaines River – Rand Park Flood Control
Phase III
Floodwall, Berm and Bike Trail
Des Plaines, Illinois Cook County FR- 416**

Item No. 1W
Letting Date March 10, 2006

Proposal Bid Bond

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 5 on page 3 of the proposal, 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, Department of Natural Resources, Office of Water Resources (DNR), accepting proposals through the Department of Transportation, for the improvement designated by the Transportation Bulletin Item Number and Letting Date indicated above.

NOW, THEREFORE, if the DNR 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 DNR; and if, after award by the DNR, 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 DNR the difference not to exceed the penalty hereof between the amount specified in the bid proposal and such larger amount for which the DNR 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 DNR 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 STATE OF ILLINOIS, Department of Natural Resources, Office of Water Resources, within fifteen (15) days of written demand therefor. If Surety does not make full payment within such period of time, the DNR may bring an action to collect the amount owed. Surety is liable to the DNR for all its expenses, including attorney's fees, incurred in any litigation in which it prevails either in whole or in part.

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

PRINCIPAL

SURETY

(Company Name)

(Company Name)

By: _____
(Signature & Title)

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

Notary Certification for Principal and Surety

STATE OF ILLINOIS,
COUNTY OF _____

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

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

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

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

My commission expires _____
Notary Public

In lieu of completing the above section of the Proposal Bid Form, the Principal may file an Electronic Bid Bond. By signing 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 _____

(Rev. 2004)

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 323
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.

**Des Plaines River – Rand Park Flood Control
Phase III
Floodwall, Berm and Bike Trail
Des Plaines, Illinois
Cook County FR- 416**



ILLINOIS
DEPARTMENT OF
NATURAL RESOURCES
Office of Water Resources

DISADVANTAGED BUSINESS POLICY

I. NOTICE

This proposal contains the special provision entitled "Required Disadvantaged Business Participation." Inclusion of this Special Provision in this contract satisfies the obligations of the Illinois Department of Natural Resources (DNR) under the Illinois "Business Enterprise for Minorities, Females, and Persons with Disabilities Act."

II. POLICY

It is public policy that the businesses defined in the above act shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with State or Federal funds. Consequently, the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act apply to this contract.

III. OBLIGATION

The Contractor agrees to ensure that the businesses defined in the Business Enterprise for Minorities, Females, and Persons with Disabilities Act have the maximum opportunity to participate in the performance of this contract. In this regard, the Contractor shall take all necessary and reasonable steps, in accordance with this Act, to ensure that the said businesses have the maximum opportunity to compete for and perform portions of this contract. The Contractor shall not discriminate on the basis of race, color, national origin, or sex in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

IV. DBE/WBE CONTRACTOR FINANCE PROGRAM

On contracts where a loan has been obtained through the DBE/WBE Contractor Finance Program, the Contractor shall cooperate with the DNR by means of a two-payee check payable to the Lender (Bank) and the Borrower (DBE/WBE Contractor).

V. BREACH OF CONTRACT

Failure to carry out the requirements set forth above and in the Special Provision shall constitute a breach of contract and may result in termination of the contract or liquidated damages as provided in the special provision.



ILLINOIS
DEPARTMENT OF
NATURAL RESOURCES
Office of Water Resources

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 for the Department of Natural Resources at the Harry R. Hanley Building, 2300 South Dirksen Parkway, in Springfield, Illinois until 10:00 o'clock a.m., March 10, 2006. 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:

2W Des Plaines River – Rand Park Flood Control
Phase III
Floodwall, Berm and Bike Trail
Des Plaines, Illinois Cook County FR- 416

The improvement consists of constructing a concrete capped steel sheet pile flood control wall and an earthen levee, some roadway reconstruction on Campground Road, Dempster Street and Rand Road, a concrete box culvert under Dempster Street, a recreational trail on fill, and riprap bank erosion protection along the Des Plaines River from just downstream of the Union Pacific Railroad upstream to Rand Road; constructing a flood control levee from Rand Road to the I-294 Tollway onramp from Dempster Street; a steel gate closure structure across Rand Road and another across Ballard Road; construction of miscellaneous storm sewers, manholes, catch basins, inlets, outlet drains, check valves, water detention areas, and pump stations to handle local drainage along the aforementioned items; a 96" diameter flexible check valve and headwall on the Golf Road interceptor on Big Bend Lake; a lighting system and electric service connection and installation for the recreational trail; a water main relocation; miscellaneous demolitions and modifications; along with all appurtenant work necessary to complete the project in the city of Des Plaines, Illinois.

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 Illinois Department of Transportation and the Illinois Department of Natural Resources 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 Illinois Department of Natural Resources 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 Natural Resources

Sam Flood , Acting Director

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted March 1, 2005

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

ERRATA Standard Specifications for Road and Bridge Construction
(Adopted 1-1-02) (Revised 3-1-05)

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STATE OF ILLINOIS
STANDARD SPECIFICATIONS

The "Standard Specifications for Road and Bridge Construction," prepared by the Department of Transportation of the State of Illinois and adopted by said Department, January 1, 2002; as amended and supplemented by the "Supplemental Specifications and Recurring Special Provisions," adopted March 1, 2005 (hereinafter referred to collectively as "Standard Specifications"), are incorporated by reference and made a part of this Contract for the Rockdale Drainage Repairs, Rockdale, Illinois, Will County, FR-424. (The Standard Specifications can be purchased from the Illinois Department of Transportation.)

SPECIAL PROVISIONS

The following Special Provisions supplement the Standard Specifications, the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included herein which apply to and govern the construction of the Rockdale Drainage Repairs project, and in the case of conflict with any part, or parts, of said Specifications, the said Special Provisions shall take precedence and shall govern.

DEFINITION OF TERMS

Wherever the word "Engineer" is used, it shall mean the Director of the Office of Water Resources of the Department of Natural Resources of the State of Illinois; or his authorized representative limited by the particular duties entrusted to him, nominally the Manager of the Division of Project Implementation or his delegated representative.

In the application of the Standard Specifications to this Contract, references to the Department of Transportation shall be interpreted to mean the Department of Natural Resources; except that references to the Department of Transportation within Section 102 - Advertisement, Bidding, Award, and Contract Execution, and references to Department publications - shall continue to mean the Department of Transportation. References to the Division of Highways shall be interpreted to mean the Department of Natural Resources; Office of Water Resources; Division of Project Implementation.

Wherever the words "Right of Way" are used, it shall mean a general term denoting land, property, or interest therein, usually a strip, acquired for or devoted to water resource projects.

Wherever the words "Central Bureau of Construction" or "District Office" are used, it shall mean the Department of Natural Resources, Office of Water Resources, Division of Project Implementation.

The advertising for Bids, Prequalification of Bidders, Issuance of Proposals, Proposal Guarantee, and Acceptance and Opening of Bids shall be in accordance with the policies and procedures of the Illinois Department of Transportation. Proposals, Schedule of Prices, Signature Sheet and other bidding or contract requirements as utilized by the Department of Natural Resources; Office of Water Resources; Division of Project Implementation shall apply to this contract.

CHECK SHEET
FOR
RECURRING LOCAL ROADS AND STREETS SPECIAL PROVISIONS

Adopted March 1, 2005

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

RECURRING LOCAL ROADS AND STREETS SPECIAL PROVISIONS

<u>CHECK SHEET #</u>	<u>PAGE NO.</u>
LRS 1 <input checked="" type="checkbox"/> Cooperation With Utilities (Eff. 1-1-99) (Rev. 1-1-02)	222
LRS 2 <input type="checkbox"/> Furnished Excavation (Eff. 1-1-99) (Rev. 1-1-02)	224
LRS 3 <input type="checkbox"/> Construction Zone Traffic Control (Eff. 1-1-99)	225
LRS 4 <input type="checkbox"/> Flaggers in Work Zones (Eff. 1-1-99)	226
LRS 5 Reserved	227
LRS 6 <input type="checkbox"/> Bidding Requirements and Conditions for Contract Proposals (Eff. 1-1-02)	228
LRS 7 <input type="checkbox"/> Bidding Requirements and Conditions for Material Proposals (Rev. 1-1-03)	234
LRS 8 <input type="checkbox"/> Failure to Complete the Work on Time (Eff. 1-1-99)	240
LRS 9 <input type="checkbox"/> Bituminous Surface Treatments (Eff. 1-1-99)	241
LRS 10 <input type="checkbox"/> Reflective Sheeting Type C (Eff. 1-1-99) (Rev. 1-1-02)	242
LRS 11 <input type="checkbox"/> Employment Practices (Eff. 1-1-99)	243
LRS 12 <input type="checkbox"/> Wages of Employees on Public Works (Eff. 1-1-99)	245
LRS 13 <input type="checkbox"/> Selection of Labor (Eff. 1-1-99)	246

CHECK SHEET
FOR
RECURRING SPECIAL PROVISIONS

Adopted March 1, 2005

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

RECURRING SPECIAL PROVISIONS

<u>CHECK SHEET #</u>	<u>PAGE NO.</u>
1 <input checked="" type="checkbox"/> State Required Contract Provision All Federal-aid Construction Contracts (Eff. 2-1-69) (Rev. 10-1-83)	80
2 <input checked="" type="checkbox"/> Subletting of Contracts (Federal Aid Contracts) (Eff. 1-1-88) (Rev. 5-1-93)	82
3 <input checked="" type="checkbox"/> EEO (Eff. 7-21-78) (Rev. 11-18-80)	83
4 <input type="checkbox"/> Specific Equal Employment Opportunity Responsibilities Non Federal-aid Contracts (Eff. 3-20-69) (Rev. 1-1-94)	94
5 <input type="checkbox"/> Required Provisions - State Contracts (Eff. 4-1-65) (Rev. 4-1-93)	100
6 Reserved	105
7 <input type="checkbox"/> Asphalt Quantities and Cost Reviews (Eff. 7-1-88)	106
8 <input checked="" type="checkbox"/> National Pollutant Discharge Elimination System Permit (Eff 7-1-94) (Rev. 1-1-03)	107
9 <input type="checkbox"/> Haul Road Stream Crossings, Other Temporary Stream Crossings, and In-Stream Work Pads (Eff. 1-2-92) (Rev. 1-1-98)	108
10 <input type="checkbox"/> Construction Layout Stakes Except for Structure" (Eff. 1-1-99) (Rev. 1-1-02)	109
11 <input type="checkbox"/> Construction Layout Stakes (Eff. 5-1-93) (Rev. 1-1-02)	112
12 <input type="checkbox"/> Use of Geotextile Fabric for Railroad Crossing (Eff. 1-1-95) (Rev. 1-1-97)	115
13 <input type="checkbox"/> Asphaltic Emulsion Slurry Seal and Fibrated Asphaltic Emulsion Slurry Seal (Eff. 8-1-89) (Rev. 2-1-97)	117
14 <input type="checkbox"/> Bituminous Surface Treatment Half-Smart (Eff. 7-1-93) (Rev. 1-1-97)	123
15 <input checked="" type="checkbox"/> Quality Control/Quality Assurance of Bituminous Concrete Mixtures (Eff. 1-1-00) (Rev. 3-1-05)	129
16 <input type="checkbox"/> Subsealing of Concrete Pavements (Eff. 11-1-84) (Rev. 2-1-95)	148
17 <input type="checkbox"/> Bituminous Surface Removal (Cold Milling) (Eff. 11-1-87) (Rev. 10-15-97)	152
18 <input type="checkbox"/> Resurfacing of Milled Surfaces (Eff. 10-1-95)	154
19 <input type="checkbox"/> PCC Partial Depth Bituminous Patching (Eff. 1-1-98)	155
20 <input type="checkbox"/> Patching with Bituminous Overlay Removal (Eff. 10-1-95) (Rev. 7-1-99)	157
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22 <input type="checkbox"/> Protective Shield System (Eff. 4-1-95) (Rev. 1-1-03)	160
23 <input type="checkbox"/> Polymer Concrete (Eff. 8-1-95) (Rev. 3-1-05)	162
24 <input checked="" type="checkbox"/> Controlled Low Strength Material (CLSM) (Eff. 1-1-90) (Rev. 3-1-05)	164
25 <input type="checkbox"/> Pipe Underdrains (Eff. 9-9-87) (Rev. 1-1-98)	169
26 <input type="checkbox"/> Guardrail and Barrier Wall Delineation (Eff. 12-15-93) (Rev. 1-1-97)	170
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34 <input type="checkbox"/> English Substitution of Metric Reinforcement Bars (Eff. 4-1-96) (Rev. 1-1-03)	183
35 <input type="checkbox"/> Polymer Modified Emulsified Asphalt (Eff. 5-15-89) (Rev. 1-1-04)	185
36 <input type="checkbox"/> Corrosion Inhibitor (Eff. 3-1-80) (Rev. 7-1-99)	187
37 <input type="checkbox"/> QC of Concrete Mixtures at the Plant - Single A (Eff. 8-1-00) (Rev. 1-1-04)	188
38 <input type="checkbox"/> QC of Concrete Mixtures at the Plant - Double A (Eff. 8-1-00) (Rev. 1-1-04)	194
39 <input checked="" type="checkbox"/> Quality Control/Quality Assurance of Concrete Mixtures (Eff. 4-1-92) (Rev. 3-1-05)	202
40 <input type="checkbox"/> Traffic Barrier Terminal Type 1, Special (Eff. 8-1-94) (Rev. 1-1-03)	215
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STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES
CONTRACT NO. FR - 416
CONSTRUCTION SPECIFICATIONS

WORK TO BE DONE

The work of this contract consists of furnishing all labor, services, equipment, supplies and incidentals of every kind necessary for constructing: a concrete capped steel sheet pile flood control wall and an earthen levee, some roadway reconstruction on Campground Road, Dempster Street and Rand Road, a concrete box culvert under Dempster Street, a recreational trail on fill, and riprap bank erosion protection along the Des Plaines River from just downstream of the Union Pacific Railroad upstream to Rand Road; constructing a flood control levee from Rand Road to the I-294 Tollway onramp from Dempster Street; a steel gate closure structure across Rand Road and another across Ballard Road; construction of miscellaneous storm sewers, manholes, catch basins, inlets, outlet drains, check valves, water detention areas, and pump stations to handle local drainage along the aforementioned items; a 96" diameter flexible check valve and headwall on the Golf Road interceptor on Big Bend Lake; a lighting system and electric service connection and installation for the recreational trail; a water main relocation; miscellaneous demolitions and modifications; together with all appurtenant work required to complete the project in accordance with the plans, specifications, special provisions, and as directed by the Engineer.

LOCATION

The proposed improvement is located in Sections 16 and 21 in Township 41 North, Range 12 East of the Third Principal Meridian, in Cook County, Illinois. The project is in Des Plaines, Illinois along the Des Plaines River from just downstream of the Union Pacific Railroad bridge upstream to Rand Road and then along the east side of Rand Road to the I-294 Tollway onramp from Dempster Street.

PLANS AND DRAWINGS

The work to be done is shown on the drawings entitled "Des Plaines River - Rand Park Flood Control, Phase III, Floodwall, Berm and Bike Trail, Des Plaines, Illinois, Cook County, FR-416"

RAND PARK FLOOD CONTROL PHASE III – FLOODWALL, BERM AND BIKE TRAIL

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RAND PARK FLOOD CONTROL PHASE III – FLOODWALL, BERM AND BIKE TRAIL

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SPECIAL PROVISION

REQUIRED DISADVANTAGED BUSINESS PARTICIPATION

I. DEFINITIONS

This Special Provision is inserted in each contract which contains a Disadvantaged Business Enterprise (DBE) Utilization Goal as required by Section 106(c) of the Surface Transportation and Uniform Relocation Assistance Act of 1987, implemented by Subpart D of 49 CFR Part 23; and as required by the Illinois "Business Enterprise for Minorities, Females, and Persons with Disabilities Act." For the purpose of this Special Provision, the following definitions apply:

- A. "Disadvantaged Business is a small business concern which is at least 51 per centum owned by one or more socially and economically disadvantaged individuals, and whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged owners.
- B. "Disadvantaged Business Joint Venture" means an association of two or more businesses formed to carry out a single business enterprise for which they combine their property, capital, efforts, skills and knowledge. At least one of the partners in the venture must be a certified entity.

II. BIDDING CONSENT AND CONTRACT ASSURANCE

By submission of a bid, the bidder agrees to follow and consents to the terms of this Special Provision. In addition, the bidder assures that in consideration of the award of this contract that no less than 3.0 per centum of the awarded contract value of this contract shall be performed by one or more Disadvantaged Businesses. The bidder further agrees that it shall not discriminate on the basis of race, color, national origin or sex in the selection of subcontractors to meet this goal.

III. BIDDING PROCEDURE

- A. Compliance with this Special Provision shall be by use of businesses certified by the Illinois Department of Transportation as Disadvantaged Businesses. The Disadvantaged Businesses may perform work as subcontractors or as joint venturers with the contractor. Joint Ventures will be approved for use under this provision if at least one of the disadvantaged partners in the joint venture is a certified Disadvantaged Business; is responsible for a clearly-defined portion of the work that is at least equal to the percentage goal of this special provision; and shares in the ownership, control, management, risks, and profits of the joint venture. In order for joint venture approval to be timely provided,

the proposed joint venture must submit a joint venture agreement no later than seven (7) working days after the letting date. This requirement is in addition to any other requirements for joint venture approval or DBE credit. Joint venture subcontracts between DBE and non-DBE firms shall not be employed to effect compliance.

The Department of Transportation maintains a list of certified disadvantaged and woman-owned contractors, vendors and suppliers for the purpose of providing a reference source to assist any bidder in meeting the requirements of this Special Provision. Generally, the bidder may rely upon the Disadvantaged Businesses Enterprises Directory and current Addendum to determine certified firms. However, changes can occur in a firm's certification eligibility between issuance of the DBE Directory or Addendum thereto and the letting date. Only those firms certified as of the letting date may be listed on or included in the DBE Utilization Plan submitted pursuant to Section III. B. of this Special Provision. The Illinois Department of Natural Resources (DNR) reserves the right to compel the replacement of a business which is not certified as of the letting date. If that should occur, and the low bidder submits as part of his/her DBE Utilization Plan a firm that is no longer certified, the low bidder will be given the opportunity to replace that firm and submit a revised Plan.

- B. Compliance with the bidding procedure of the Special Provision is required prior to the award of the contract and the failure of the as-read low bidder to comply with render the bid nonresponsive. In order to assure the timely award of the contract, the as-read low bidder must submit a Disadvantaged Business Utilization Plan on the Illinois Department of Transportation form SBE 2026 with seven (7) working days after the date of the letting. To meet the seven (7) day requirement, the contractor may send the Plan by certified mail within the seven (7) 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. It is the responsibility of the as-read low bidder to ensure that the postmark is affixed within the seven (7) working days if the Contractor intends to rely upon mailing to satisfy the submission day requirement. The Plan is to be submitted to the following address:

Illinois Department of Natural Resources, Office of Water
Resources
One Natural Resources Way
Springfield, Illinois 62702-1271
Attention: Manager, Division of Project Implementation

The DNR will not accept a Utilization Plan if it does not meet the seven (7) day submittal requirement and the DNR reserves the right to invite any other bidder to submit a Utilization Plan for award consideration.

- C. The Utilization Plan shall indicate that the bidder will meet the contract goal or will seek a waiver or modification of the goal by demonstrating a good faith effort to meet the goal.
- D. The Utilization Plan must tender to the DNR a DBE Participation Statement for each Disadvantaged Business proposed for use in achieving the goal on the Illinois Department of Transportation form SBE 2025. The signatures on these forms must be original signatures. All elements of information indicated on said form shall be provided, including but not limited to the following:
1. Identification of the Disadvantaged Businesses to be used:
 2. The work to be done by each Disadvantaged Business identified by item number:
 3. The price to be paid to each Disadvantaged Business for the identified work specifically stating:
 - a) the contract pay item(s),
 - b) the quantity, unit price and total for the work to be completed by the certified entity, and
 - c) where partial pay items are to be performed by the certified entity, indicate the portion of each item and the subcontract dollar amount;
 4. A statement signed by the bidder and each of the Disadvantaged Businesses evidencing availability and use on the project; and
 5. If the bidder is a joint venture comprised of disadvantaged firms and nondisadvantaged firms, the plan must also include a clear identification of the portion of the work to be performed by the disadvantaged partner(s).
- E. The Utilization Plan will be approved by the DNR if the Plan meets the goal of the contract established in Paragraph II. A. The contract shall not be awarded until the Utilization Plan submitted by the bidder is approved. If the Utilization Plan is not approved or is deficient in a technical matter, the bidder will be notified and will be allowed no less than five (5) working day period in order to cure the deficiency. The bidder may count toward its goal only expenditures, indicated on the Participation Statements, to certified businesses that will perform a

commercially useful function in the work of the contract. A business shall be considered to perform a commercially useful function only when it is responsible for execution of a distinct element of the work and carrying out its responsibilities by actually performing, managing and supervising the work involved.

In accordance with 49 CFR Part 23.47, goal credit for participation may be counted in one or more of the following ways:

1. DBE prime contractor or joint venture (100 percent goal credit for the DBE's portion of the work).
 2. DBE subcontractor (100 percent goal credit).
 3. Equipment rental from a DBE firm (100 percent goal credit).
 4. Purchase of material from a DBE supplier, fabricator or manufacturer:
 - a) 60 percent goal credit for materials and supplies purchased from a DBE regular dealer.
 - b) 100 percent goal credit for material purchased from a DBE manufacturer.
 - c) 100 percent goal credit for material purchased from a DBE fabricator or a DBE supplier who substantially alters or changes a material before resale to a contractor.
 5. Other expenditures made to DBE firms subject to DNR approval.
- F. If the bidder is unable to meet the contract goals, and has requested a modification or waiver of the Disadvantaged Business goal, as indicated on Illinois Department of Transportation form SBE 2026, the waiver request must include the following elements:
1. All information indicating why the contract goal should be modified or waived,
 2. Evidence of Disadvantaged Businesses contacted. The following information must be submitted in order to document initial and follow-up contact:
 - a) An Initial Bid Solicitation List, indicating the names of the firms contacted, date of contact, method of contact, i.e., letter (specify if regular, express or registered mail), telephone or face-to-face contact, whether or not a response was received, and summary of the response. The solicitations shall contain at least the project identification, project location, types of work for which quotations are

sought and the date, time and place quotations are due.

- b) A Certificate of Contact, certifying that the information provided on the Initial Bid Solicitation List is true and accurate.
- c) Copies of all contact letters, if the bidder contacts DBE firms by letter. The letter must clearly encourage participation and specifically define the types of work for which bids are being sought.
- d) A Follow-up Telephone Log, which indicates follow-up telephone contact after all types of initial contact. A telephone log must be submitted indicating the individual contacted, date of contact and response.

3. All evidence of good faith efforts made by the bidder, both prior to and after the letting, to secure the ready, willing, able and certified Disadvantaged Businesses necessary to meet the contract goals. See paragraph IV for information on what is meant by good faith efforts.

G. A waiver or modification request indicated on form SBE 2026 will be decided by the DNR as follows. If the DNR determines that the Contractor has utilized good faith efforts to secure the ready, willing and able certified Disadvantaged Enterprises necessary to comply with the Special Provision, and that certified enterprises are not reasonably available to perform on the project or that some other reason exists for waiver or modification of the goal, the DNR shall modify or waive the goal of the Special Provision. The DNR will advise the Contractor by certified mail. If the DNR denies the request or modifies the goal in a manner other than that requested, the DNR will notify the bidder of the determination by certified mail. The determination shall include a statement of additional efforts that the bidder may take in order to effect compliance. The bidder is not limited by the statement of additional efforts, but may take such other action beyond the stated additional efforts in order to cure. Thereafter, the bidder will be allowed no less than a five (5) working day period in order for the bidder to cure the deficiency and effect compliance. Failure to issue a denial determination within eighteen (18) working days after receipt of the written waiver request shall be deemed an approval of the request.

H. In the event the bid is rendered nonresponsive due to failure to submit a Disadvantaged Business Utilization Plan or failure to comply with the bidding procedures set forth herein, the DNR may take one or more of the following actions: 1) cause a forfeiture of the penal sum of the bidder's proposal guaranty to the DNR, 2) declare the bidder ineligible to rebid the project on any further letting if readvertised, or 3) suspend the bidder for one letting.

IV. GOOD FAITH EFFORTS

A. In order to demonstrate sufficient good faith efforts to achieve the designated goal percentages for Disadvantaged Businesses, the steps taken to obtain participation must be documented. The required elements are:

1. That a reasonable number of relevant Disadvantaged Businesses were contacted,
2. That the work selected for allocation to Disadvantaged Businesses was chosen in order to increase the likelihood of achieving the stated goals,
3. That potential Disadvantaged Businesses were negotiated with in good faith, that conditions were not imposed on a Disadvantaged Business which are not imposed on all other subcontractors or that benefits ordinarily conferred on subcontractors for the type of work were not denied the Disadvantaged Business, and
4. That services of the Department of Transportation and its supportive services contractors were used in the efforts to reach the contract goals.

B. In addition to the required elements which must be shown to demonstrate good faith, any other relevant information which supports the waiver request may be submitted, including but not limited to the following:

1. That any DNR pre-bid meetings scheduled to inform Disadvantaged Businesses of subcontracting opportunities, were attended, and
2. That the historical track record of the contractor discloses a meaningful effort on the part of the contractor to achieve the goal of the program in DNR contracts.

V. CONTRACT OBLIGATION

A. Compliance with this Special Provision is an essential part of this contract. After approval of the Utilization Plan and award of the contract, the Utilization Plan and Participation Statements shall become part of the contract. No changes to the Utilization Plan may be made without the prior written approval from the DNR. All items or partial items of work indicated or reserved for performance by the approved certified businesses shall be performed, managed and supervised by the business executing the Participation Statement. All requests for changes to the Utilization Plan shall be submitted in writing to:

Illinois Department of Natural Resources, Office of Water
Resources
One Natural Resources Way
Springfield, Illinois 62702-1271
Attention: Manager, Division of Project Implementation

- B. In determining compliance with this Provision, the total dollars paid to eligible Disadvantaged Businesses shall be divided by the total awarded contract dollars to determine the percentage of performance. The Contractor shall maintain records of payment under this Provision and said records shall be made available to the DNR upon request for inspection. After the performance of the final item of work or delivery of material by the approved DBE firm and within thirty (30) calendar days after payment has been made by the DNR to the Contractor for such work or material (less any retainage), the Contractor shall submit a DBE Payment Agreement upon the Illinois Department of Transportation form SBE 2115 to the DNR (see address in paragraph V. A. above), or if a disagreement exists, indicate to the DNR on this form why payment has not been made.
- C. The Contractor may after award of the contract seek modification or waiver of the goal for good cause upon a showing of a good faith effort to achieve the goal of the Special Provision. Examples of such good cause include but are not limited to nonperformance, breach of contract by an approved Disadvantaged Business and failure of the approved Disadvantaged Business to perform, manage and supervise its identified work. It is the responsibility of the contractor to prove the good cause and a good faith effort to achieve the goal in the light of the cause. All requests for waiver or modification of the goal will be considered as a change to the approved Utilization Plan and the contractor shall therefore submit a written request for the waiver or modification to the address listed in paragraph V. A. above. If the DNR determines that the contractor has proven the good cause and a good faith effort to achieve the goal in light of the cause, the DNR shall modify or waive the goal as requested. If the DNR denies the request or modifies the goal in a manner other than that requested, the DNR will notify the contractor of the determination by certified mail within twenty (20) working days after receipt of the request. Failure to issue a denial determination within twenty (20) working days after receipt of the written waiver request, shall be deemed an approval of the request. Unless the goal of the Special Provision is modified or waived for good cause upon a showing of a good faith effort, failure of the Contractor to have at least the designated goal of this contract performed by the Disadvantaged Businesses as indicated in the approved Utilization Plan will result in a reduction in contract payments, as liquidated and ascertained damages, determined by multiplying the awarded contract dollar value by the contract per centum goal and subtracting the dollar value of the work actually performed by approved DBE businesses. The DNR 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 pursuant to this Section demonstrating achievement of the goal or until such time as the goal is modified or waived by the DNR in accordance with this Special Provision or after liquidated damages have been determined and collected.

- D. This Special Provision is in addition to all other Equal Employment Opportunity requirements of this contract.

SPECIAL PROVISIONS

TIME LIMIT

Time Limit for work. The Contractor's attention is called to the fact that the appropriation for the current fiscal year, from which the cost of this contract will be paid, will lapse at the end of the fiscal year, which is June 30. Continuation of this contract into the next fiscal year will be contingent upon the Illinois General Assembly reappropriating funds for this contract. If funds are not reappropriated, this contract will be terminated on or before the appropriation lapse date.

SPECIAL PROVISION

CONTRACT CLAIM

The following provisions shall be substituted in Article 109.09 of the Standard Specifications.

- (1) The title District Engineer shall mean Manager, Division of Project Implementation.
- (2) The section titled Procedure shall be as follows:

Procedure

All claims must be submitted to the Manager, Division of Project Implementation. The Contractor may request an opportunity to present the claim verbally at each of the following levels if the claim has not been satisfactorily resolved at the previous level.

- (a) Manager, Division of Project Implementation
- (b) Director of Water Resources

All requests for presentation must be made through the Manager, Division of Project Implementation. Requests by the Contractor to present a claim at the second level will be accompanied by two additional copies of the claim with addenda.

Full compliance by the Contractor with the provisions of this Special Provision is a contractual condition precedent to the Contractor's right to seek relief in the Court of Claims. The Director's written response shall be deemed a final action of the Department. Unless the Contractor files a claim for adjudication by the Court of Claims within 60 days after the date of the written response, the failure to so file shall constitute a release and waiver of the claim.

SPECIAL PROVISION

VALUE ENGINEERING PROPOSALS

Replace Section (a) of Article 104.07 of the Standard Specifications with the following:

The (a) Proposal Submittals. Value Engineering Proposals shall be submitted in two phases as follows:

- (1) Concept Phase. Prior to the submittal of any Value Engineering Proposal, the Contractor shall submit a brief summary outlining the concept of the proposal to the Division of Project Implementation. Within five working days after receipt of the proposal concept, the Department will notify the Contractor as to whether or not the proposal concept qualifies for consideration as Value Engineering. If it appears, based on the concept, that the actual proposal will require a review period exceeding the normal review period, as outlined below, the Contractor will be so advised. Approval of the concept does not constitute or imply approval of the subsequent submittal of the complete Value Engineering Proposal.
- (2) After the concept has been approved, the Contractor, if electing to proceed with submittal of the complete Value Engineering Proposal, shall submit the proposal to the Division of Project Implementation for review. Provided the proposal is complete and contains all the required information for review, the Manager of the Division of Project Implementation will notify the Contractor, within 10 working days after receipt of the proposal, as to the acceptability of the proposal, unless additional review time has been established as noted in the concept review process.

SPECIAL PROVISION

WORKING DAYS


The Contractor shall complete the work by June 30, 2008.

SPECIAL PROVISION
CONSTRUCTION PROCEDURE

The contractor's attention is directed to the fact that the Illinois Department of Natural Resources, Office of Water Resources, the Illinois Department of Transportation, Division of Highways, the Cook County Department of Highways and the Cook County Forest Preserve District have issued construction permits for this project. In addition, the Union Pacific Railroad has issued a license agreement and requires a Contractor's Right of Entry Agreement (form provided) for this project. These permits and license / right of entry agreement contain certain requirements which may affect the construction of this project. It will be the responsibility of the Contractor to familiarize himself with these requirements and conduct his work in accordance with those requirements and the special provisions contained herein, particularly to the additional insurance and flagger requirements. See the following pages for copies of these permits and license / right of entry agreement.

Should the Contractor desire to use materials, construction methods, or procedures which differ substantially from that authorized by the granted permits and / or license / right of entry agreement, it is the responsibility of the Contractor to obtain approved amendments to the permits and/or license / right of entry agreement.

All costs incurred by the Contractor in complying with the applicable requirements of the above-mentioned permits and license/right of entry agreement shall be considered as completely covered by the contract unit prices bid for the various items of work in the proposal.



Illinois

Department of
Natural Resources

<http://dnr.state.il.us>

One Natural Resources Way • Springfield, Illinois 62702-1271

George H. Ryan, Governor • Brent Manning, Director

October 11, 2002

SUBJECT: Permit No. NE2002125
Des Plaines River/Rand Park Flood Protection Project
Des Plaines River/Farmers Creek
Cook County
Application No. 2002007

Timothy Oakley
City Engineer
City of Des Plaines
1420 Minor Street
Des Plaines, IL 60016

Joseph Saccomanno
Director of Public Works
City of Park Ridge
505 Butler Place
Park Ridge, IL 60068

Dear Messrs Oakley and Saccomanno:

We are enclosing Permit No. NE2002125 authorizing the subject project. This permit is subject to the following special condition:

- a) To preclude possible impacts to the Kirkland snake, construction of the 96-inch diameter check valve and headwall modifications at the outlet of the Golf Road Interceptor sewer at Big Bend Lake shall be performed between October 15 of any year and the following April 1.

Upon receipt and review of this permit and all conditions included therein, please properly execute and return the attached acceptance slip within sixty (60) days from the date of this permit.

If any changes in the location or plans of the work are proposed, revised plans should be submitted promptly to my office for review and approval before construction begins.

When the work is completed, please contact my office at 8477705-4341 so we may schedule a final inspection.

Sincerely,



Gary W. Jereb, P.E., Chief
Northeastern Illinois Regulatory Programs Section

GJ/crw
Enclosure

cc: Chicago District Corps of Engineers (Chic. COE)
IDNR-OWR; Division of Planning (Loren Wobig)



PERMIT NO. NE2002125
DATE: October 11, 2002

State of Illinois
Department of Natural Resources, Office of Water Resources

Permission is hereby granted to:


City of Des Plaines
1420 Miner Street
Des Plaines, Illinois 60016

City of Park Ridge
505 Butler Place
Park Ridge, Illinois 60068

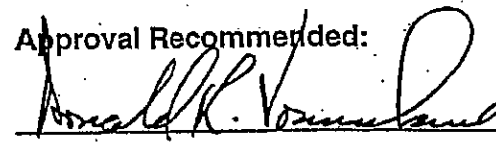
to construct a public flood control flood wall and levee, recreation trail on fill, and bank erosion protection along the Des Plaines River; a seven gate flow control structure and pump station with channel regrading on Farmer's Creek; and a flexible check valve and headwall on the Golf Road interceptor on Big Bend Lake in the Southwest Quarter of Section 16 and the Northwest Quarter of Section 21, Township 41 North, Range 12 East of the Third Principal Meridian in Cook County; In accordance with an application dated January 4, 2002, and the plans and specifications entitled:

DES PLAINES RIVER/RAND PARK FLOOD PROTECTION PROJECT COOK COUNTY, RAILROAD EMBANKMENT PLAN SHEET, 3 SHEETS, DATED JANUARY 2002, RAND PARK FLOOD PROTECTION PROJECT PLAN LAYOUT PHASE III, 10 SHEETS, UNDATED, EXHIBIT 21, RAND PARK FLOOD PROTECTION, UNDATED PROPOSED SITE ARRANGEMENT (SITUATION PLAN), DRAWING NO. 1, MODIFIED GRADING PLAN, DRAWING NO. 27A, BOTH DATED OCTOBER 6, 1996, SECTION THRU GATE CENTERLINE, DRAWING NO. 7, DATED SEPTEMBER 10, 1998, EXHIBIT 11, WHEEL INC. FLOOD CONTROL INTERIOR DRAINAGE PLAN, ONE SHEET, EXHIBIT 12, PLAN & PROFILE WHEELS INCORPORATED DETENTION AREA, ONE SHEET, BOTH DATED JUNE 15, 2000, ALL RECEIVED JANUARY 10, 2002.

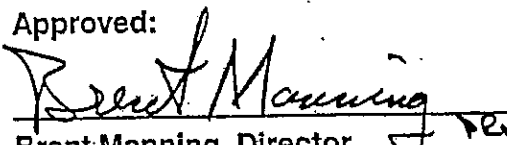
Examined and Recommended:


Gary W. Jereb, Chief
Northeastern Illinois Regulatory
Programs Section

Approval Recommended:


Donald R. Vonnahme, Director
Office of Water Resources

Approved:


Brent Manning, Director
Department of Natural Resources

This PERMIT is subject to the terms and special conditions contained herein.

THIS PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

- 1) This permit is granted in accordance with the Rivers, Lakes and Streams Act "615 ILCS 5."
- 2) This permit does not convey title to the permittee or recognize title of the permittee to any submerged or other lands, and furthermore, does not convey, lease or provide any right or rights of occupancy or use of the public or private property on which the activity or any part thereof will be located, or otherwise grant to the permittee any right or interest in or to the property, whether the property is owned or possessed by the State of Illinois or by any private or public party or parties.
- 3) This permit does not release the permittee from liability for damage to persons or property resulting from the work covered by this permit, and does not authorize any injury to private property or invasion of private rights.
- 4) This permit does not relieve the permittee of the responsibility to obtain other federal, state or local authorizations required for the construction of the permitted activity; and if the permittee is required by law to obtain approvals from any federal or state agency to do the work, this permit is not effective until the federal and state approvals are obtained.
- 5) The permittee shall, at the permittee's own expense, remove all temporary piling, cofferdams, false work, and material incidental to the construction of the project. If the permittee fails to remove such structures or materials, the Department may have removal made at the expense of the permittee.
- 6) In public waters, if future need for public navigation or other public interest by the state or federal government necessitates changes in any part of the structure or structures, such changes shall be made by and at the expense of the permittee or the permittee's successors as required by the Department or other properly constituted agency, within sixty (60) days from receipt of written notice of the necessity from the Department or other agency, unless a longer period of time is specifically authorized.
- 7) The execution and details of the work authorized shall be subject to the review and approval of the Department. Department personnel shall have the right of access to accomplish this purpose.
- 8) Starting work on the activity authorized will be considered full acceptance by the permittee of the terms and conditions of the permit.
- 9) The Department in issuing this permit has relied upon the statements and representations made by the permittee; if any substantive statement or representation made by the permittee is found to be false, this permit will be revoked; and when revoked, all rights of the permittee under the permit are voided.
- 10) In public waters, the permittee and the permittee's successors shall make no claim whatsoever to any interest in any accretions caused by the activity.
- 11) In issuing this permit, the Department does not ensure the adequacy of the design or structural strength of the structure or improvement.
- 12) Noncompliance with the conditions of this permit will be considered grounds for revocation.
- 13) If the construction activity permitted is not completed on or before December 31, 2005, this permit shall cease and be null and void. When all work is constructed, the permittee shall notify the Department so that a final inspection can be completed.

THIS PERMIT IS SUBJECT TO THE FOLLOWING SPECIAL CONDITIONS:

- a) To preclude possible impacts to the Kirkland snake, construction of the 96-inch diameter check valve and headwall modifications at the outlet of the Golf Road Interceptor sewer at Big Bend Lake shall be performed between October 15 of any year and the following April 1.

**DRAINAGE FACILITY & WATERWAY
AGREEMENT**

Mile Post: 15.930, Harvard Subdivision
Location: Des Plaines, Cook County, Illinois

THIS AGREEMENT is made and entered into as of October 1, 2002, by and between **UNION PACIFIC RAILROAD COMPANY**, a Delaware corporation (hereinafter the "Licensor"), and **CITY OF DES PLAINES**, an Illinois municipal corporation, to be addressed at 1420 Miner/Northwest Highway, Des Plaines, Illinois 60016-4498 (hereinafter the "Licensee").

RECITALS:

As part of the Rand Park Flood Control and Multi-Use Trail Project, the Licensee desires to construct, modify, stabilize and thereafter maintain an embankment in the vicinity of Licensor's right of way at Mile Post 15.93 on the Harvard Subdivision, located at Des Plaines, Cook County, Illinois (hereinafter the "Premises").

The project to be constructed by Licensee shall include embankment stabilization and related drainage facilities to be constructed at Licensee's expense on the Premises which for the purposes of this Agreement shall hereinafter collectively be referred to as the "Drainage Facility". The parties agree that construction of the project will be by or at the direction of the Illinois Dept. of Natural Resources and/or Army Corps of Engineers and that entry upon the Premises for the purposes of such construction will be in accordance with the terms of Article VII herein. The Drainage Facility and Premises are shown on the Licensor's print dated January 28, 2002 marked Exhibit "A", hereto attached, and will be constructed in accordance with the Office of Water Resources drawings dated May 7, 2002 consisting of three (3) sheets and Terracon's letter of April 5, 2002 all of which are attached as Exhibit A-1.

The Railroad is agreeable to the Licensee constructing, maintaining and using the Drainage Facility upon the terms and conditions set forth herein.

AGREEMENT:

NOW, THEREFORE, IT IS MUTUALLY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

Article I. LICENSOR GRANTS RIGHT.

In consideration of the License Fee to be paid by the Licensee and in further consideration of the covenants and agreements herein contained to be by the Licensee kept, observed and performed, the Licensor hereby grants to the Licensee the right to construct and thereafter, during the term hereof, to maintain and use the Drainage Facility.

Article II. LICENSE FEE.

Upon execution and delivery of this Agreement, the Licensee shall pay to the Licensor a one-time License Fee of **EIGHTY THOUSAND TWO HUNDRED NINETY DOLLARS (\$80,290.00)**.

Article III. CONSTRUCTION WORK TO BE PERFORMED BY LICENSEE.

The Licensee, at its sole expense, shall construct the Drainage Facility and perform the work described in the Recitals above and/or described in Exhibit "A".

Article IV. CONSTRUCTION, MAINTENANCE AND OPERATION.

The grant of right herein made to the Licensee is subject to each and all of the terms, provisions, conditions, limitations and covenants set forth herein and in Exhibit B, hereto attached.

Article V. DEFERRED CONSTRUCTION.

The Licensor and Licensee acknowledge that conditions inherent in the Drainage Facility may cause the complete stabilization of Licensor's trackage supported by new cuts or fills to be deferred beyond the construction period, and that Licensor's operation over the roadbed during the seasoning period will impose extraordinary maintenance costs in the event of caving, sliding, slipping, sinking or settling, including damage to rip-rapping or protective work in connection therewith, as well as settlement and consolidation of tracks and ballast, until the seasoning period is complete. Therefore, the Licensee will pay to the Licensor, as a part of the consideration for this Agreement, all that part of the cost and expense of extraordinary maintenance (hereinafter referred to as "Deferred Construction") associated with the Drainage Facility which can be attributed to failure of subgrade, settlement, and consolidation of subballast, or roadbed, or any combination thereof, which are incurred during the period commencing immediately following completion of the work on the Drainage Facility by the Licensee or its contractor and ending five years thereafter. The Deferred Construction costs aforesaid shall include reimbursement of the extra cost, in excess of normal maintenance costs, of maintaining embankments and that portion of said tracks above subgrade in accordance with acceptable maintenance standards, and will include cost of maintaining proper alignment, proper surface and use of ballast and other necessary materials.

Article VI. TERM; TERMINATION.

A. This Agreement shall take effect as of the date first herein written and, unless sooner terminated as set forth in Paragraphs (B) and (C) below, shall continue in full force and effect for so long as the Premises and Drainage Facility shall be used by the Licensee for the purposes set forth herein.

B. If the Licensee or any entity acting on its behalf has not taken affirmative action to cure any default in the performance of any covenant or agreement herein contained for a period of ninety (90) days after written notice from the Licensor to the Licensee, the United States Army Corps of Engineers, Chicago District to be addressed at Real Estate Branch, U.S. Army Corps of Engineers - Chicago District, 111 North Canal Street, Chicago, Illinois, 60606 and the State of Illinois Department of Natural Resources to be addressed at Division of Projection Implementation, IDNR - Office of Water Resources, 1 Natural Resources Way, Springfield, IL 62702-5014 specifying such default, the Licensor may, at its option, forthwith and immediately terminate this Agreement by written notice to Licensee.

C. Notice of default and notice of termination may be served personally upon the Licensee or by mailing to the last known address of the Licensee. Termination of this Agreement for any reason shall not affect any of the rights or obligations of the parties hereto which may have accrued, or liabilities, accrued or otherwise, which may have arisen prior thereto.

Article VII. IF WORK IS TO BE PERFORMED BY CONTRACTOR.

If a contractor is to do any of the work performed on the Drainage Facility or Premises (including initial construction and subsequent relocation or substantial maintenance and repair work), then the Licensee shall require its contractor to execute the Railroad's Contractor's Right of Entry Agreement in the form attached hereto as Exhibit C. Licensee acknowledges receipt of a copy of the Contractor's Right of Entry Agreement and understanding of its terms, provisions, and requirements, and will inform its contractor of the need to execute the Agreement. Under no circumstances will Licensee's contractor be allowed onto Licensor's Premises without first executing the Contractor's Right of Entry Agreement.

Article VIII. INSURANCE.

A. The Licensee, at its expense, shall obtain the insurance described in Exhibit B-1, hereto attached. The Licensee will also provide to the Licensor a Certificate of Insurance issued by its insurance carrier confirming the existence of such insurance and that the policy or policies contain the following endorsement:

Union Pacific Railroad Company is named as an additional insured with respect to all liabilities arising out of the existence, use or any work performed on or associated with the Drainage Facility located on Railroad's right of way at Mile Post 15.930 on the Harvard Subdivision, at Des Plaines, Cook County, Illinois.

B. If the Licensee named in this Agreement is a public entity subject to any applicable statutory tort laws, the limits of insurance described in Exhibit B-1 shall be the limits the Licensee then has in effect or which is required by applicable current or subsequent law, whichever is greater, a portion of which may be self-insured with the consent and approval of the Licensor.

C. All insurance correspondence shall be directed to:

Folder No.: 02059-76
Director-Contracts
Union Pacific Railroad Company
Real Estate Department
1800 Farnam Street
Omaha, Nebraska 68102

Article IX. AMENDMENT TO EXHIBIT B.

Section 12 of Exhibit B, hereto attached, is hereby amended to read as follows:

Section 12. AGREEMENT NOT TO BE ASSIGNED.


The Licensee shall not assign this Agreement, in whole or in part, or any rights herein granted, without the written consent of the Licensor, and it is agreed that any transfer or assignment or attempted transfer or assignment of this Agreement or any of the rights herein granted, whether voluntary, by operation of law, or otherwise, without such consent in writing, shall be absolutely void.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the date first herein written.

UNION PACIFIC RAILROAD COMPANY

By: 
Director of Contracts

CITY OF DES PLAINES

X 
Title Mayor

DATE: 2/6/03

ATTEST:

CITY CLERK



December 19, 2002
Folder No: 02059-76

To the Contractor:

Before the Railroad Company can permit you to perform work on its right of way for the installation of an earthen levee flood protection embankment for CITY OF DES PLAINES, it will be necessary to complete the enclosed Contractor's Right of Entry Agreement as follows:

1. Fill in the complete legal name of the contractor in the space provided on Page 1 of the Contractor's Right of Entry Agreement. If a corporation, give the state of incorporation. If a partnership, give the names of all partners.
2. Fill in the date construction will begin and be completed in Article 6, Paragraph (a).
3. Fill in the name of the contractor in the space provided in the signature block at the end of the Contractor's Right of Entry Agreement. If the contractor is a corporation, the person signing on its behalf must be an elected corporate officer.
4. Return all copies of the Contractor's Right of Entry Agreement, together with your Certificate of Insurance, identifying Folder No. 02059-76, as required in Exhibit B-1, in the attached self-addressed envelope.
5. Check, with Folder No. 02059-76 written on the front, made payable to the Union Pacific Railroad Company in the amount of FIVE HUNDRED DOLLARS (\$500.00). If you require formal billing, you may consider this letter as a formal bill. In compliance with the Internal Revenue Service's policy regarding Form 1099, I certify that 94-6001323 is the Railroad Company's correct Federal Taxpayer Identification Number and that Union Pacific Railroad Company is doing business as a corporation.

After approval of the Contractor's Right of Entry Agreement and the Insurance Certificate, your fully-executed document will be returned to you, with instructions to proceed. In no event should you begin work until you have received a copy of the signed Contractor's Right of Entry Agreement.

Under Exhibit B-1 of the enclosed Contractor's Right of Entry Agreement, you are required to procure Railroad Protective Liability Insurance (RPLI) for the duration of this project. As a service to you, Union Pacific is making this coverage available to you. You are not required to purchase this coverage from the Railroad and are encouraged to shop the market for the best available rate. If you decide, however, that acquiring this coverage from the Railroad is of benefit to you, simply follow the instructions on the enclosed form.

Sincerely,

Michael Gatewood
Contracts Representative
(402) 997-3549

Real Estate

UNION PACIFIC RAILROAD
1800 Farnam Street, Omaha, NE 68102
fx. (402) 997-3601

EXHIBIT C

**DRAINAGE AND WATERWAY FACILITIES
CONTRACTOR'S RIGHT OF ENTRY AGREEMENT**

THIS AGREEMENT is made and entered into as of the ____ day of _____, 20 ____, by and between UNION PACIFIC RAILROAD COMPANY, a Delaware corporation, (hereinafter the "Railroad") and _____, a(n) _____ corporation (hereinafter the "Contractor").

RECITALS:

The Contractor has been employed by CITY OF DES PLAINES for the construction (hereinafter "work") of an earthen levee flood protection embankment on property of the Railroad at Mile Post 015.930, on the Harvard Subdivision/Branch, at or near Des Plaines, Cook County, Illinois, as shown on the print dated January 28, 2002, marked Exhibit "A", hereto attached.

The Contractor has requested the Railroad to permit it to perform the work and Railroad is agreeable thereto, subject to the following terms and conditions.

AGREEMENT:

NOW, THEREFORE, it is mutually agreed by and between the Railroad and Contractor, as follows:

ARTICLE 1 - DEFINITION OF CONTRACTOR

For purposes of this Agreement, all references in this Agreement to the Contractor shall include the Contractor's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority.

ARTICLE 2 - RIGHT GRANTED; PURPOSE

The Railroad hereby grants to the Contractor the right, during the term hereinafter stated and upon and subject to each and all of the terms, provisions and conditions herein contained, to enter upon and have ingress to and egress from the property of the Railroad at the heretofore mentioned location, as shown on the attached print dated January 28, 2002, marked Exhibit "A", for the purpose heretofore stated. The right herein granted to Contractor is limited to those portions of the Railroad's property specifically described herein, or designated by the Railroad representative named in Article 5.

ARTICLE 3 - TERMS AND CONDITIONS CONTAINED IN EXHIBITS B AND B-1

The terms and conditions contained in Exhibits B and B-1, hereto attached, are hereby made a part of this Agreement.

ARTICLE 4 - ADMINISTRATIVE FEE.

Applicant shall pay to the Railroad **FIVE HUNDRED DOLLARS (\$500.00)** as reimbursement for clerical, administrative and handling expense in connection with the processing of this Agreement.

**ARTICLE 5 - ALL EXPENSES TO BE BORNE BY CONTRACTOR;
RAILROAD REPRESENTATIVE.**

The Contractor shall bear any and all costs and expenses associated with any work performed by the Contractor, or any costs or expenses incurred by the Railroad relating to this Agreement. All work performed by Contractor on Railroad's property shall be performed in a manner satisfactory to the respective local Superintendent of Transportation Services of the Railroad or his authorized representative (hereinafter the "Railroad Representative").

ARTICLE 6 - TERM; TERMINATION.

(a) The grant of right herein made to Contractor shall commence on _____, and continue until _____, unless sooner terminated as herein provided, or at such time as Contractor has completed its work on Railroad's property, whichever is earlier. Contractor agrees to notify the Railroad Representative in writing when it has completed its work on Railroad property.

(b) This Agreement may be terminated by either party, with or without cause, on ten (10) days' written notice to the other party.

ARTICLE 7 - CERTIFICATE OF INSURANCE.

(a) Before commencing any work, the Contractor will provide the Railroad with a Certificate, identifying Folder No. 02059-76, issued by its insurance carrier providing the insurance coverage required pursuant to Exhibit B-1 of this Agreement in a policy which contains the following type of endorsement.

UNION PACIFIC RAILROAD COMPANY is named as additional insured with respect to all liabilities arising out of Insured's, as Contractor, performance of any work on the property of the Railroad.

(b) Contractor warrants that this Agreement has been thoroughly reviewed by its insurance agent(s)/broker(s) and that said agent(s)/broker(s) has been instructed to procure insurance coverage and an endorsement as required herein.

(c) All insurance correspondence shall be directed to:

Folder No. 02059-76
Union Pacific Railroad Company
Real Estate Department
1800 Farnam Street
Omaha, Nebraska 68102.

ARTICLE 8 - CHOICE OF FORUM.

Litigation arising out of or connected with this Agreement may be instituted and maintained in the courts of the States of Nebraska and Illinois only, and the parties consent to jurisdiction over their person and over the subject matter of any such litigation, in those courts, and consent to service of process issued by such courts.

ARTICLE 9 - SPECIAL PROVISIONS.

None.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first herein written.

UNION PACIFIC RAILROAD COMPANY

By _____
Contracts Representative

WITNESS:

X _____

(Name of Contracting Company)

X _____
Title: _____
Telephone: _____
Fax: _____

EXHIBIT B TO CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

Section 1. NOTICE OF COMMENCEMENT OF WORK - FLAGGING.

The Contractor agrees to notify the Railroad Representative at least 48 hours in advance of Contractor commencing its work and at least 24 hours in advance of proposed performance of any work by the Contractor in which any person or equipment will be within 25 feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within 25 feet of any track. Upon receipt of such notice, the Railroad Representative will determine and inform the Contractor whether a flagman need be present and whether the Contractor need implement any special protective or safety measures. If any flagmen or other special protective or safety measures are performed by the Railroad, such services will be provided at Contractor's expense with the understanding that if the Railroad provides any flagging or other services the Contractor shall not be relieved of any of its responsibilities or liabilities set forth herein.

Section 2. NO INTERFERENCE WITH RAILROAD'S OPERATION.

No work performed by Contractor shall cause any interference with the constant, continuous and uninterrupted use of the tracks, property and facilities of the Railroad its lessees, licensees or others, unless specifically permitted under this agreement, or specifically authorized in advance by the Railroad Representative. Nothing shall be done or suffered to be done by the Contractor at any time that would in any manner impair the safety thereof. When not in use, Contractor's machinery and materials shall be kept at least 50 feet from the centerline of Railroad's nearest track, and there shall be no vehicular crossings of Railroad's tracks except at existing open public crossings.

Section 3. MECHANIC'S LIENS.

The Contractor shall pay in full all persons who perform labor or provide materials for the work to be performed by Contractor. The Contractor shall not create, permit or suffer any mechanic's or materialmen's liens of any kind or nature to be created or enforced against any property of the Railroad for any such work performed. The Contractor shall indemnify and hold harmless the Railroad from and against any and all liens, claims, demands, costs or expenses of whatsoever nature in any way connected with or growing out of such work done, labor performed, or materials furnished.

Section 4. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.

a). Fiber optic cable systems may be buried on the Railroad's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. Contractor shall telephone the Railroad at 1-800-336-9193 to determine if fiber optic cable is buried anywhere on the Railroad's premises to be used by the Contractor. If it is, Contractor will telephone the telecommunications company(ies) involved, arrange for a cable locator, make arrangements for relocation or other protection of the fiber optic cable, all at Contractor's expense, and will commence no work on the right of way until all such protection or relocation has been accomplished.

b). In addition to other indemnity provisions in this Agreement, the Contractor shall indemnify and hold the Railroad harmless from and against all costs, liability and expense whatsoever (including, without limitation, attorneys' fees, court costs and expenses) arising out of any act or omission of the Contractor, its contractor, agents and/or employees, that causes or contributes to (1) any damage to or destruction of any telecommunications system on Railroad's property, and/or (2) any injury to or death of any person employed by or on behalf of any telecommunications company, and/or its contractor, agents and/or employees, on Railroad's property. Contractor shall not have or seek recourse against Railroad for any claim or cause of action for alleged loss of profits or revenue or loss of service or other consequential damage to a telecommunication company using Railroad's property or a customer or user of services of the fiber optic cable on Railroad's property.

Section 5. COMPLIANCE WITH LAWS.

In the prosecution of the work covered by this agreement, the Contractor shall secure any and all necessary permits and shall comply with all applicable federal, state and local laws, regulations and enactments affecting the work. The Contractor shall use only such methods as are consistent with safety, both as concerns the Contractor, the Contractor's agents and employees, the officers, agents, employees and property of the Railroad and the public in general. The Contractor (without limiting the generality of the foregoing) shall comply with all applicable state and federal occupational safety and health acts and regulations. All Federal Railroad Administration regulations shall be followed when work is performed on the Railroad's property. If any failure by the Contractor to comply with any such laws, regulations, and enactments, shall result in any fine, penalty, cost or charge being assessed, imposed or charged against the Railroad, the Contractor shall reimburse and indemnify the

Railroad for any such fine, penalty, cost, or charge, including without limitation attorneys' fees, court costs and expenses. The Contractor further agrees in the event of any such action, upon notice thereof being provided by the Railroad, to defend such action free of cost, charge, or expense to the Railroad.

Section 6. SAFETY INSTRUCTIONS.

Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of the work pursuant to this agreement. As reinforcement and in furtherance of overall safety measures to be observed by the Contractor (and not by way of limitation), the following special safety rules shall be followed:

a). The Contractor shall keep the job site free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job. The Contractor shall have proper first-aid supplies available on the job site so that prompt first aid services can be provided to any person that may be injured on the job site. The Contractor shall promptly notify the Railroad of any U.S. Occupational Safety and Health Administration reportable injuries occurring to any person that may arise during the work performed on the job site. The Contractor shall have a non-delegable duty to control its employees, while they are on the job site or any other property of the Railroad to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug, narcotic or other substance that may inhibit the safe performance of work by the employee.

b). The employees of the Contractor shall be suitably dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing or free use of their hands or feet. Only waist length shirts with sleeves and trousers that cover the entire leg are to be worn. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching. The employees should wear sturdy and protective work boots and at least the following protective equipment:

(1) Protective head gear that meets American National Standard-Z89.1-latest revision. It is suggested that all hardhats be affixed with Contractor's or subcontractor's company logo or name.

(2) Eye protection that meets American National Standard for occupational and educational eye and face protection, Z87.1-latest revision. Additional eye protection must be provided to meet specific job situations such as welding, grinding, burning, etc.; and

(3) Hearing protection which affords enough attenuation to give protection from noise levels that will be occurring on the job site.

c). All heavy equipment provided or leased by the Contractor shall be equipped with audible back-up warning devices. If in the opinion of the Railroad Representative any of Contractor's or any of its subcontractor's equipment is unsafe for use on the Railroad's right-of-way, the Contractor, at the request of the Railroad Representative, shall remove such equipment from the Railroad's right-of-way.

Section 7. INDEMNITY.

a). As used in this Section, "Railroad" includes other railroad companies using the Railroad's property at or near the location of the Contractor's installation and their officers, agents, and employees; "Loss" includes loss, damage, claims, demands, actions, causes of action, penalties, costs, and expenses of whatsoever nature, including court costs and attorneys' fees, which may result from: (a) injury to or death of persons whomsoever (including the Railroad's officers, agents, and employees, the Contractor's officers, agents, and employees, as well as any other person); and/or (b) damage to or loss or destruction of property whatsoever (including Contractor's property, damage to the roadbed, tracks, equipment, or other property of the Railroad, or property in its care or custody).

b). As a major inducement and in consideration of the license and permission herein granted, the Contractor agrees to indemnify and hold harmless the Railroad from any Loss which is due to or arises from any cause and is associated in whole or in part with the work performed under this agreement, a breach of the agreement or the failure to observe the health and safety provisions herein, or any activity, omission or negligence arising out of performance or nonperformance of this agreement. However, the Contractor shall not indemnify the Railroad when the Loss is caused by the sole negligence of the Railroad.

c). The Contractor shall maintain whatever insurance coverage is necessary to adequately underwrite its general and contractual liability under the terms of this Agreement.

Section 8. RESTORATION OF PROPERTY.

In the event the Railroad authorizes the Contractor to take down any fence of the Railroad or in any manner move or disturb any of the other property of the Railroad in connection with the work to be performed by Contractor, then in that event the Contractor shall, as soon as possible and at Contractor's sole expense, restore such fence and other property to the same condition as the same were in before such fence was taken down or such other property was moved or disturbed.

Section 9. WAIVER OF BREACH.

The waiver by the Railroad of the breach of any condition, covenant or agreement herein contained to be kept, observed and performed by the Contractor shall in no way impair the right of the Railroad to avail itself of any remedy for any subsequent breach thereof.

Section 10. ASSIGNMENT - SUBCONTRACTING.

The Contractor shall not assign, sublet or subcontract this agreement, or any interest therein, without the written consent of the Railroad and any attempt to so assign, sublet or subcontract without the written consent of the Railroad shall be void. If the Railroad gives the Contractor permission to subcontract all or any portion of the work herein described, the Contractor is and shall remain responsible for all work of subcontractors and all work of subcontractors shall be governed by the terms of this agreement.

EXHIBIT B-1

Union Pacific Railroad Company
Insurance Provisions For
Contractor's Right of Entry Agreement
Involving
Pipeline, Wireline, or Drainage Work on Union Pacific Property

Contractor shall, at its sole cost and expense, procure and maintain during the life of this Agreement the following insurance coverage:

A. Commercial General Liability insurance. This insurance shall contain broad form contractual liability with a single limit of at least \$2,000,000 each occurrence or claim and an aggregate limit of at least \$4,000,000. Coverage must be purchased on a post 1998 ISO or equivalent form, including but not limited to coverage for the following:

- Bodily injury including death and personal injury
- Property damage
- Fire legal liability (Not less than the replacement value of the portion of the premises occupied)
- Products and completed operations

The policy shall also contain the following endorsements which shall be indicated on the certificate of insurance:

- "For purposes of this insurance, Union Pacific Railroad payments related to the Federal Employers Liability Act or a Union Pacific Wage Continuation Program or similar programs are deemed not to be either payments made or obligations assumed under any Workers Compensation, disability benefits, or unemployment compensation law or similar law."
- The exclusions for railroads (except where the Job site is more than fifty feet (50') from any railroad including but not limited to tracks, bridges, trestles, roadbeds, terminals, underpasses or crossings), and explosion, collapse and underground hazard shall be removed.
- Coverage for Contractor's (and Railroad's) employees shall not be excluded
- Waiver of subrogation

B. Business Automobile Coverage insurance. This insurance shall contain a combined single limit of at least \$2,000,000 per occurrence or claim, including but not limited to coverage for the following:

- Bodily injury and property damage
- Any and all motor vehicles including owned, hired and non-owned

The policy shall also contain the following endorsements which shall be indicated on the certificate of insurance:

- "For purposes of this insurance, Union Pacific Railroad payments related to the Federal Employers Liability Act or a Union Pacific Wage Continuation Program or similar programs are deemed not to be either payments made or obligations assumed under any Workers Compensation, disability benefits, or unemployment compensation law or similar law."
- The exclusions for railroads (except where the Job site is more than fifty feet (50') from any railroad including but not limited to tracks, bridges, trestles, roadbeds, terminals, underpasses or crossings), and explosion, collapse and underground hazard shall be removed.
- Motor Carrier Act Endorsement- Hazardous materials clean up (MCS-90) if required by law.

C. Workers Compensation and Employers Liability insurance including but not limited to:

- Contractor's statutory liability under the workers' compensation laws of the state(s) affected by this Agreement
- Employers' Liability (Part B) with limits of at least
\$500,000 each accident, \$500,000 disease policy limit
\$500,000 each employee

If Workers Compensation insurance will not cover the liability of Contractor in states that require participation in state workers' compensation fund, Contractor shall comply with the laws of such states. If Contractor is self-insured, evidence of state approval must be provided along with evidence of excess workers compensation coverage. Coverage shall include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

The policy shall also contain the following endorsement which shall be indicated on the certificate of insurance:

- Alternate Employer Endorsement

D. **Umbrella or Excess Policies** In the event Contractor utilizes Umbrella or excess policies, these policies shall "follow form" and afford no less coverage than the primary policy.

E. **Railroad Protective Liability** insurance naming only the Railroad as the insured with a combined single limit of \$2,000,000 per occurrence with a \$6,000,000 aggregate. The policy shall be broad form coverage for "Physical Damage to Property" (ISO Form CG 00 35 07 98 or equivalent). A binder stating the policy is in place must be submitted to the Railroad until the original policy is forwarded to the Railroad.

Other Requirements

F. Punitive damage exclusion must be deleted, which deletion shall be indicated on the certificate of insurance.

G. Contractor agrees to waive its right of recovery, and its insurers, through policy endorsement, agree to waive their right of subrogation against Railroad. Contractor further waives its right of recovery, and its insurers also waive their right of subrogation against Railroad for loss of its owned or leased property or property under its care, custody and control. Contractor's insurance shall be primary with respect to any insurance carried by Railroad. All waivers of subrogation shall be indicated on the certificate of insurance.

H. All policy(ies) required above (excluding Workers Compensation) shall provide severability of interests and shall name Railroad as an additional insured. Severability of interest and naming Railroad as additional insured shall be indicated on the certificate of insurance.

I. Prior to commencing the Work, Contractor shall furnish to Railroad original certificate(s) of insurance evidencing the required coverage, endorsements, and amendments. The certificate(s) shall contain a provision that obligates the insurance company(ies) issuing such policy(ies) to notify Railroad in writing of any cancellation or material alteration. Upon request from Railroad, a certified duplicate original of any required policy shall be furnished.

J. Any insurance policy shall be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the service is to be provided.

K. Contractor **WARRANTS** that this Agreement has been thoroughly reviewed by Contractor's insurance agent(s)/broker(s), who have been instructed by Contractor to procure the insurance coverage required by this Agreement and acknowledges that Contractor's insurance coverage will be primary.

L. The fact that insurance is obtained by Contractor or Railroad on behalf of Contractor shall not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad shall not be limited by the amount of the required insurance coverage.

RECEIVED
JAN 24 2003

Des Plaines Engineering Dept

DEPARTMENT OF HIGHWAYS

COUNTY OF COOK

69 WEST WASHINGTON STREET, CHICAGO, ILLINOIS 60602

APPLICATION FOR HIGHWAY PERMIT

WHEREAS, CITY OF DES PLAINES

LOCATED AT 1420 MINER / NW.HWY.

DES PLAINES, ILLINOIS 60016-4498

Hereinafter termed the applicant, request permission and authority to install, construct, operate and maintain the following described improvements in Cook County, Illinois on

COUNTY HIGHWAY known as JOE SCHWABE ROAD

State Aid Road No. A58 Section 2121

SUBJECT TO THE CONDITIONS SHOWN ON PAGE 2 OF THIS APPLICATION:

IN ACCORDANCE WITH THE AMENDMENT TO THE COUNTY ORDINANCE CHAPTER 14 THE APPLICANT ACKNOWLEDGES THIS PERMIT IS NULL AND VOID IF THE APPLICANT, BUSINESS ENTITY, (PARTNERSHIP OR CORPORATION) IS DELINQUENT IN THE PAYMENT OF ANY TAX OR FEE ADMINISTERED BY THE COUNTY OF COOK.

ALL LANE CLOSURES OR TRAFFIC DETOURS RELATING TO THE WORK MENTIONED BELOW WILL NOT BE ALLOWED BETWEEN THE HOURS OF 6 A.M. 9 A.M. AND 3 P.M. AND 6:30 P.M. ALL SIGNS AND FLAG MAN MUST CONFORM TO THE LATEST EDITION OF THE STATE OF ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICE FOR STREETS AND HIGHWAYS.

TO CONSTRUCT, INSTALL AND MAINTAIN ACCESS AND STABILIZATION OF THE EXISTING EMBANKMENT ALONG JOSEPH J. SCHWAB ROAD UNDER THE JURISDICTION OF THE COOK COUNTY HIGHWAY DEPARTMENT.

- NOTE:
1. POSITIVE DRAINAGE MUST BE MAINTAINED ALONG THE TOE OF SLOPE TO VOID STANDING WATER ADJACENT TO THE ROADWAY
 2. THE CITY OF DES PLAINES MUST NOTIFY THE RAIL ROAD AGENCY FOR THE CONSTRUCTION WORK WITHIN RAILROAD RIGHT OF WAY
 3. THE CITY OF DES PLAINES HEREBY ACCEPTS FULL RESPONSIBILITY FOR THE FUTURE MAINTENANCE AND LIABILITY OF THE CONSTRUCTION MENTIONED ABOVE.

The above mentioned work is to be done by City/Village forces under the "Hold Harmless Agreement" on file with the Cook County Highway Department Permit Office.

THE WORK CALLED FOR IN THIS PERMIT MUST BE PERFORMED AS STATED ABOVE AND ON PAGE TWO ATTACHED HERETO.

ATTEST:

Donna M. [Signature]
(APPLICANT) City Clerk

MAYOR OF CITY OF DES PLAINES

BY:

[Signature]

ADDRESS 1420 Miner, Des Plaines, IL 60016

Approved and permit granted this

10 Day of January 2003

Wally J. [Signature]

COUNTY SUPERINTENDENT OF HIGHWAYS

A COPY OF PERMIT MUST BE KEPT ON THE JOB SITE DURING CONSTRUCTION

GENERAL CONDITIONS

1. That said Permittee(s) shall furnish all material to do all work required, and pay all costs which may be incurred in connection with such work, and shall prosecute the same diligently and without delay to completion.
2. That the construction work shall be in accordance with the current Standard Specifications for Road and Bridge Construction of the Illinois Department of Transportation including the Supplemental Specifications thereto of the County of Cook, and as detailed in the permit.
3. That upon completion of said work, said Permittee(s) shall, within 30 days, at its own cost, restore said highway substantially to the same condition in which it was before said work was commenced and shall remove all debris, rubbish, materials, apparatus, tools, and equipment, as well as all excess excavated materials, from the right of way of said highway, all to the satisfaction of the Cook County Superintendent of Highways.
4. That should future construction and operation of said highway by The County of Cook require alteration or change of location of the improvement referred to herein, such change shall be made by the Permittee(s), its successor or assigns, upon the written request of The County of Cook without expense to said County or State.
5. That the said Permittee(s), its successor or assigns shall assume all risk and liability for accident and damages that may accrue to persons and property, during the prosecution of the work or any time thereafter, by reason of the location, construction, installation and work referred to herein, and said Permittee(s) agree to indemnify and save harmless the County of Cook, from any such claims for damages and from all costs and expenses incurred on account thereof and in connection therewith.
6. That no changes, alterations, or revisions will be permitted unless approved in writing by the Cook County Superintendent of Highways.
7. In accordance with the amendment to the County Ordinance chapter 14 the applicant acknowledges that this permit is null and void if the applicant, business entity, (partnership or corporation) is delinquent in the payment of any tax or fee administered by the County of Cook.
8. That all trenches and openings made in the Cook County Right of Way shall be backfilled with sand or limestone screening adequately compacted in accordance with Method 1 specified in Article 550.07 of the State Standard Specifications.
9. That all pavement openings and curb cuts shall be saw cut full depth.
10. That all pavement openings shall be immediately surfaced with a temporary bituminous patch, at least three inches in thickness. This patch then must be inspected daily and additional bituminous patch material must be placed, daily if necessary, to maintain the patched area at the same elevation as the adjacent undisturbed pavement for a period of not less than 30 days. After 30 days permanent replacement in kind shall be made to the base course and pavement surface.
11. That all auger pits shall be a minimum of 10 feet from the edge of pavement or back of curb, and wood or steel sheeting shall be used, and auger pits left open overnight shall be protected with concrete barrier walls.
12. That all casings shall be pressure grouted both inside and outside of the casing.

(Continued on reverse side of page)

13. That if during the progress of the work, that subterranean conditions prohibit the construction of said improvement in and along the alignment as outlined in the plans, it is expressly understood that construction operations shall cease until a proposed revised alignment has been approved by the Cook County Highway Department.
14. That without further action, the Cook County Highway Department reserves the right to make connections to the proposed storm sewer for the purpose of draining the highway.
15. That the Permittee(s) shall be responsible for providing positive drainage.
16. That the pavement, parkway and all drainage systems shall be kept clean and free of debris at all times.
17. That unless particularly specified in the permit, no equipment other than pneumatic tired equipment used during the installation shall be permitted to stop or operate on the pavement nor shall any excavated materials be stored temporarily or otherwise on the County Highway pavement.
18. That in the removal of sidewalks, curb, gutter or pavement, the use of any type of concrete breaker that will damage the underground structures will not be permitted.
19. That the Permittee(s) shall provide and maintain at his own expense, such temporary roads and approaches, as may be necessary to provide access to driveways, house, buildings or other property abutting said improvement.
20. That the earth shall be removed to its full depth, starting at the edge of the pavement, for the full dimensions of the proposed driveway, and replaced with materials to be used in the construction of the driveway.
21. That when existing traffic control signs such as stop signs, stop ahead signs and crossroad signs are removed in the progress of the work, said signs shall be immediately reset as close as possible to their original location; after the construction of said improvement has been approved, said traffic control signs shall be restored to their original position and condition or as directed by the County Permit Engineer.
22. That the operations of the Permittee(s) shall be conducted in a manner to insure the minimum hindrance to traffic using the pavement and at no time shall its operations obstruct more than one half (1/2) of the available pavement width.
23. That the use of flagmen and that the number, type, color, size and placement of all traffic control devices shall conform to the latest edition of the State of Illinois "Manual on Uniform Traffic Control Devices for Streets and Highways."
24. That his permit covers only the specific work mentioned herein and does not presume to release the applicant from fulfilling the requirements of any other laws relating to this work.
25. This permit is issued with the expressed understanding that the Permittee has obtained the proper authority for the said installation from the "Illinois Environmental Protection Agency Division of Public Water Supplies -Technical Policy Statements" -Approved 1/13/75.
26. That at least three (3) days advance notice prior to the start of work shall be given to the County Permit Division, Mr. Bhanu Vyas (312) 603-1670.
27. This permit can be revoked at the discretion of the Cook County Highway Department, Superintendent of Highways, at any time.

GRANT OF PERMANENT EASMENT

This Agreement made this 14th day of February, 2003 by and between the FOREST PRESERVE DISTRICT OF COOK COUNTY, the owners of the property described herein (hereinafter referred to as "Grantor"), and the CITY OF DES PLAINES, Cook County, Illinois, a municipal corporation organized and existing under the laws of the State of Illinois (hereinafter referred to as "Grantee), witnesseth:

WITNESSETH

That Grantor for and in consideration of the sum of One Deollar (\$1.00) and other good and valuable consideration in hand paid, the receipt and sufficiency of which are hereby acknowledged, grants and conveys unto Grantee, its successors and assigns, a permanent easement with full and free right and authority to enter, together with full rights of ingress and egress, to construct, operate, repair, maintain, replace, remove and inspect a flood wall and appurtenances with the following described parcel(s) of real property shown on drawing(s) marked Exhibit "A" attached hereto and made a part hereof.

This Grant is made by Grantor and accepted by Grantee under the following terms and conditions:

1. The Grantor, heirs, assigns, and lessees, shall have the right to utilize and enjoy the above-described premises providing the use shall not interfere with the construction, maintenance, repair, inspection, operation, replacement, and removal of the flood wall and appurtenances and providing further that Grantor, heirs, assigns, and lessees shall not erect or place any structure or tree on the above-described premises and Grantee shall not be liable for their removal if they are so placed.
2. Grantee, upon completion of construction, maintenance, repair, replacement and removal shall restore to the best of its ability, the property to the condition which existed prior to said construction, maintenance, repair, replacement, and removal.
3. Other than assignment necessary to the project, the authority hereby granted to Grantee is not assignable or transferable and shall cease if the project shall be abandoned.

4. The City will assume all liability for, and pay all costs associated with, the Grant of Permanent Easement by the District and all work to be constructed on the Rand Park Flood Control Project, including, but not limited to, all costs of construction, maintenance, repair and operation. A legal description of the easement property will be provided to the District prior to beginning work on the project.

5. The City must provide the District with an Environmental Study of the 4.25 acres to be deeded to the District, which is to be done by a company that the District must approve. All expenses and costs of the study will be paid by the City. The study must reveal that the 4.25 acres to be deeded to the District are environmentally safe and suitable for the purpose to which the District will use the land. Suitability is solely a decision of the District. If the study reveals that the land is unsuitable for District purposes, the District, in its sole discretion, may cancel this agreement. The Environmental Study must be completed and accepted by the District prior to work beginning on the project.

6. The City shall submit all construction plans and contracts involving the District's property to the District for approval prior to the commencement of work.

7. The City, its contractors and their subcontractors must maintain the insurance coverages listed in Exhibit "D" and attached hereto relating to the construction, maintenance, and repair of the flood wall referred to in this Intergovernmental Agreement.

8. In exchange for the Grant of Permanent Easement by the District, the City hereby agrees to indemnify and hold the District harmless from any and all claims, demands, liabilities, suits and judgments entered in any way resulting from the Grant of Permanent Easement to the City for the purposes set forth in this Agreement.

This Agreement shall be binding upon the parties, their successors, and/or assigns, and may not be terminated or restricted except in accordance with the provisions of this Agreement.

IN WITNESS WHEREOF, the Grantor has hereunto set its hand and seal, the day and year first hereinabove written.

FOREST PRESERVE DISTRICT
 OF COOK COUNTY

By: [Signature]
 DISTRICT PRESIDENT

ATTEST: [Signature]
 Its: SECRETARY

INSURANCE PROVISIONS

- a. Worker's Compensation and Occupation Disease Insurance, in accordance with the laws of the State of Illinois, or any other applicable jurisdiction, covering all employees who are to provide a service under this Agreement. Employer's liability coverage with limits of not less than \$500,000.00 for bodily injury by each accident; \$500,000.00 bodily injury by disease each employee, \$500,000.00 bodily injury by disease policy limit, or such lesser amount as may satisfy carriers of the CITY's or Developer's umbrella liability coverage.
- b. Commercial General Liability Insurance (Primary and Umbrella): Commercial General Liability Insurance or equivalent with limits of not less than \$2,000,000.00 combined single limits per occurrence and aggregate for bodily injury, property damage and personal injury.
- c. Automobile Liability Insurance (Primary and Umbrella) Commercial Automobile Liability Insurance covering owned, non-owned, and hired vehicles, including the loading and unloading thereof, with limits of not less than \$1,000,000 per occurrence combined single limit, for bodily injury and property damage.
- d. Insurance Requirements: All policies of insurance required hereunder shall be written by carriers which possess a B+ policyholders rating or better and a minimum Class VIII financial size category as listed at the time of issuance by A.M. Best Insurance Reports (the aforesaid rating classifications to be adjusted if and to the extent that Best adjusts its rating categories).

All policies of commercial general liability insurance shall name the **DISTRICT** as an Additional Insured with proper endorsement for any and all injury, damage, liability, expenses or judgments arising out of the construction maintenance and repair of the flood wall.

All policies shall provide that they may not be canceled, renewed or reduced unless at least thirty days' prior written notice thereof has been given to the Additional Insured.

- e. Insurance Certificates: The CITY shall have the Contractor furnish Insurance Certificates with the **DISTRICT** as Additional Insured, as evidence of the required insurance coverage. No construction shall commence prior to the **DISTRICT's** approval of the insurance coverage.

24. **Performance and Payment Security.** The CITY shall require the said independent contractor to execute a Performance and Payment Bond in the full amount of the contract. The Performance Bond and Payment Bond shall indicate the **DISTRICT** and the CITY as owners of the Bond.

EXHIBIT NO. D



Project Des Plaines River-Rand Park Flood Control Phase III

Year 2006

City Des Plaines, Illinois

Project No. FR-416

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.

William J. Schuck

Signature

February 3, 2006

Date

Manager, Division of Project Implementation

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):

The project consists of constructing: a concrete capped steel sheet pile flood control wall and levee, some roadway reconstruction on Campground Road, Dempster Street and Rand Road, a concrete box culvert under Dempster Street, a recreation trail on fill, and bank erosion protection along the Des Plaines River from just downstream of the Union Pacific Railroad upstream to Rand Road; a flood control levee from Rand Road to the 294 Tollway onramp from Dempster Street; miscellaneous storm sewers, manholes, catch basins, inlets, outlet drains, check valves, water detention areas, and pump stations to handle local drainage along the aforementioned items; a 96" diameter flexible check valve and headwall on the Golf Road interceptor on Big Bend Lake; a lighting system, and electric service connection and installation for the recreational trail; a water main relocation; miscellaneous demolitions and modifications; along with all appurtenant work to complete the project.

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): This job will require some tree removal and grubbing, topsoil stockpiling, earth and structure excavation, and excavation for riprap placement. This will also require construction and removal of cofferdams in the river.

c. The total area of the construction site is estimated to be 8.5 acres.

The total area of the site that it is estimated will be disturbed by excavation, grading or other activities is 5.6 acres.

- d. The estimated runoff curve numbers 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, hydraulic report, or 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 areal extent of wetland acreage at the site are in the design/project report or plan documents which 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):

Tree removal will be limited to the removal of only those trees necessary to complete construction. Temporary erosion control seeding will be applied to erodible / bare areas every seven days to minimize the amount of exposed surface area within the contract limits in accordance with the Standard Specifications. At the completion of the final grading and shaping, the Contractor will apply permanent seeding, mulching and fertilizing as shown in the contract plans, the Summary of Quantities or as directed by the Resident Engineer.

- (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):

Prior to any construction activities, the Contractor will install Perimeter Erosion Barrier and Floating Turbidity Curtain at locations shown on the plans or as directed by the Resident Engineer to prevent sediment from discharging off of the limits of the working area. The contractor will also install the following temporary erosion control devices during the construction activity; inlet and pipe protection and temporary ditch checks. Permanent erosion control measures installed during construction of this project include Stone Dumped Riprap and Seeding, Mulching, and Fertilizing with Erosion Control Blanket.

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):

Stone Dumped Riprap will be utilized throught the project at various locations to reduce erosion. Perimeter Erosion Barrier and Floating Turbidity Curtain and will be placed at locations shown on plans to trap sediment and slow/spread the flow of runoff in the construction area.

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:

The management practices, controls and other provisions in this plan are in accordance with IDOT Standard Specifications for Road and Bridge Construction and the Illinois Urban Manual.

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):

The Contractor will be responsible for installing and maintaining the erosion control systems in accordance with existing specifications, the Illinois Urban Manual, the Illinois Department of Transportation Drainage Manual, the current edition of the "Supplemental Specifications and Resurring Special Provisions" and as directed by the Engineer.

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 pollution control measures).

N/A



ILLINOIS
 DEPARTMENT OF
NATURAL RESOURCES
 Office of Water Resources

Contractor Certification Statement

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:

Project Des Plaines River-Rand Park Flood Control Phase III Year 2006
 City Des Plaines, Illinois Project No. FR-416
 County Cook

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

SPECIAL PROVISION
TREE REMOVAL, ACRES

Revise Section 201.04 to read:

201.04 Tree Removal. Prior to beginning tree removal, all requirements of article 201.05(a), Protection of Existing Plant Material, shall be completed. All trees except those designated to be saved, and all stumps, shall be cut and disposed of according to Article 202.03. Trees and stumps within the limits of the proposed levee and Trees of Osage Orange shall be pulled or grubbed in such a manner as to insure complete removal. All other trees and stumps shall be removed to a depth of not less than 12 inches below the lower of the existing or proposed ground line.

SPECIAL PROVISION
BRIDGE APPROACH PAVEMENT (SPECIAL)

DESCRIPTION

This work shall consist of the construction of bridge approach pavement in accordance with Section 420 of the Standard Specification, Highway Standard 420401 and as shown on the plans and as directed by the Engineer.

METHOD OF MEASUREMENT

Bridge Approach Pavement (Special) will be measured for payment in place, and the area computed in square yards.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per square yard for BRIDGE APPROACH PAVEMENT (SPECIAL), which price shall include concrete, reinforcement bars, tie bars, bar splicers, preformed joint seal, polyethylene bond breaker, styrofoam board, expansion joint filler and sealer, concrete pads (including reinforcement and excavation), granular subbase, and all labor for completing the work.

SPECIAL PROVISION
TEMPORARY SIDEWALK

DESCRIPTION

This work shall consist of construction of temporary sidewalk at Miner Street as shown on the plans or as directed by the Engineer.

The contractor shall use either Portland cement concrete as outlined in Section 424 of the Standard Specifications or bituminous concrete according to Sections 355 and 356 of the Standard Specifications, and the special provisions for Bituminous Base Course/Widening Superpave and Superpave Bituminous Concrete Mixtures. The bituminous mixtures to be used are specified in the plans. The thickness of Temporary Sidewalk shall be 4" for Portland cement concrete, and 2" for bituminous concrete or as described in the plans.

Article 355.10 of the Standard Specifications shall not apply.

The removal of the Temporary Sidewalk shall conform to Section 440 of the Standard Specifications.

METHOD OF MEASUREMENT

Temporary Sidewalk will be measured in place and the area computed in square feet.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per square foot for TEMPORARY SIDEWALK.

Removal of temporary sidewalk will be paid for at the contract unit price per square foot for SIDEWALK REMOVAL.

SPECIAL PROVISION

PORTLAND CEMENT CONCRETE BIKE TRAIL, 6 INCH

DESCRIPTION

This work shall consist of the construction of a 6 inch Portland Cement Concrete Bike Trail reinforced with welded wire fabric as shown on the plans, and as described in this Special Provision.

MATERIALS

The Portland Cement Concrete shall meet the requirements of Section 1020. The Preformed Expansion Joint Filler shall meet the requirements of Section 1051. The Welded Wire Fabric shall be 6X6 – 4.5X4.5 W.W.F. and shall meet the requirements of Section 1006.10(c).

CONSTRUCTION REQUIREMENTS

Subgrade Preparation.

The Portland Cement Concrete Bike Trail shall be constructed on SUB-BASE GRANULAR MATERIAL, TYPE B 4" that will be paid for separately.

Forms.

Side forms shall be of lumber not less than 2 inch thickness or steel of equal rigidity. They shall be held securely in place by stakes or braces, with the top edges true to line and grade. Where applicable the concrete floodwall and the sheet pile retaining wall shall be used as form work.

Placing the Welded Wire Fabric.

The welded wire fabric shall be placed 2 inches from the top of the bike trail and adequately supported to prevent movement during the placement of the concrete. The welded wire fabric shall be kept a minimum distance of 1 inch away from the edges of the bike trail and the transverse expansion joints.

Placing and Finishing the Concrete.

The subgrade shall be moistened just before the concrete is placed. The concrete shall be placed in successive batches for the entire width of the slab, struck-off, consolidated and finished to a true and even surface with floats and trowels. After the water sheen has disappeared, the surface shall be given a final finish by brushing with a whitewash brush. The brush shall be drawn across the bike trail at right angles to the edge of trail, with adjacent strokes slightly overlapping, producing a uniform, slightly roughened surface with parallel brush marks.

The surface shall be divided by groves constructed at right angles to the centerline of the bike trail. These grooves shall be 1 1/2 inch deep, shall be not less than 1/8 inch nor more than 1/4 inch in width, and shall be edged with an edging tool having a 1/4 inch radius. The grooves shall be located at every handrail post. Where there is no handrail, the groove spacing shall be 6 feet. No longitudinal groove is allowed. The edges of the slabs shall be edged as described above.

Expansion Joints.

Expansion joints of the thickness specified below shall consist of preformed joint filler. The top of the joint filler shall be placed $\frac{1}{4}$ inch below the surface of the bike trail.

- (a) $\frac{1}{2}$ inch Thick Expansion Joints. Expansion joints $\frac{1}{2}$ inch thick shall be placed between the bike trail and the flood wall, the sheet pile retaining wall and the handrail foundations.
- (b) $\frac{3}{4}$ inch Thick Expansion Joints. Transverse expansion joints $\frac{3}{4}$ inch thick shall be placed at intervals of not more than 80 feet in the bike trail.

METHOD OF MEASUREMENT

Portland cement concrete bike trail will be measured for payment in place, and the area computed in square feet.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per square foot for PORTLAND CEMENT CONCRETE BIKE TRAIL, 6", which price shall include all required expansion joints, welded wire fabric, and special texturing.

The sub-base material will be paid for separately as SUB-BASE GRANULAR MATERIAL, TYPE B 4".

SPECIAL PROVISION
APPROACH SLAB REMOVAL

DESCRIPTION

This work shall consist of the complete removal of a portion of an existing approach slab at a location designated in the plans and in accordance with the applicable portions of Sections 440 and 501 of the Standard Specifications. The contractor shall remove the existing approach slab in a manner so as not to damage the Miner Street bridge structure over the Des Plaines River or the portion of existing approach slab to remain. The contractor shall make a full depth saw cut at the removal limit adjacent to the approach slab to remain.

METHOD OF MEASUREMENT

Approach Slab Removal will be measured for payment in place, and the area computed in square yards.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per square yard for APPROACH SLAB REMOVAL, which price shall include the full depth saw cuts, and all labor and equipment necessary to remove and dispose of the approach slab pavement.

SPECIAL PROVISION
CONCRETE HEADWALL REMOVAL

DESCRIPTION

This work shall consist of the complete removal of various sizes of reinforced concrete headwalls in accordance with Section 501 of the Standard Specification, as shown on the plans, and as described in this Special Provision.

METHOD OF MEASUREMENT

Concrete Headwall Removal will be measured for payment per each at the locations designated on the plans and as directed by the Engineer.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per each for CONCRETE HEADWALL REMOVAL, which price shall include all labor and equipment necessary to excavate and properly dispose of all materials.

STORM SEWER REMOVAL, of various sizes, will be paid for separately.

SPECIAL PROVISION

GRATING FOR CONCRETE FLARED END SECTION 12" AND 15"

DESCRIPTION

This work shall consist of fabricating and installing steel grating for a 12" and 15" reinforced concrete flared end section. The flared end section is shown on Highway Standard 542301. Detailed drawings for grating for 24" through 54" flared end sections can be found in Highway Standard 542311. No detail for the grating is provided. The grating shall be as manufactured by J.H. Botts Inc. of Joliet Illinois or approved equal.

METHOD OF MEASUREMENT

Grating for concrete flared end section 12" and 15" will be measured for payment per each.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per each for GRATING FOR CONCRETE FLARED END SECTION 12" and GRATING FOR CONCRETE FLARED END SECTION 15", which price shall include the fabrication and installation of the grate.

The flared end sections will be paid for separately as PRECAST REINFORCED CONCRETE FLARED END SECTION 12" and PRECAST REINFORCED CONCRETE FLARED END SECTION 15".

SPECIAL PROVISION

CAST-IN-PLACE REINFORCED CONCRETE END SECTIONS 15" AND 24"

DESCRIPTION

This work shall consist of constructing cast-in-place reinforced concrete end sections for a 15" and 24" sewer as shown on the plans and as directed by the Engineer. The contractor shall use Class SI Concrete as outlined in Sections 542.07 of the Standard Specifications.

METHOD OF MEASUREMENT

Cast-In-Place Reinforced Concrete End Sections 15" and 24" will be measured for payment per each.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per each for CAST-IN-PLACE REINFORCED CONCRETE END SECTIONS 15" and CAST-IN-PLACE REINFORCED CONCRETE END SECTIONS 24", which price shall include all excavating, temporary soil retention or sheeting form work, reinforcing steel, concrete and backfilling.

Tideflex 15" and Tideflex 24" will be measured for payment separately.

SPECIAL PROVISION

STORM SEWERS TO BE CLEANED 10", 12", 18" AND 24"

DESCRIPTION

This work shall consist of removing foreign materials from storm sewers and restoring the sewer to a minimum 95% of the original capacity at locations shown on the plans and as directed by the engineer.

The storm sewers shall be cleaned using a combination unit with a high velocity jet which is to be approved by the Engineer. The equipment shall be capable of removing dirt, grease, rocks, sand, and other materials and obstructions from the sewer lines and manholes by use of a vacuum system. The contractor will be required to make as many passes as necessary with a minimum of three (3) to restore the sewer to a minimum of 95% of the original capacity.

Debris such as dirt, sand, rocks, grease and other solid or semi-solid material which is a result of cleaning, shall be removed at the downstream manhole of the section being cleaned. Passing material from manhole to manhole shall not be permitted due to the risk of line plugging. This material will be removed using the vacuum system on the combination system.

METHOD OF MEASUREMENT

STORM SEWERS TO BE CLEANED 10", 12", 18", and 24" will be measured in place in linear feet.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per linear foot for STORM SEWERS TO BE CLEANED 10", 12", 18", and 24".

SPECIAL PROVISION

STEEL PLATE BEAM GUARD RAIL, TYPE A (SPECIAL)

DESCRIPTION

This work shall consist of fabricating and installing double faced steel plate beam guard rail to separate the bike trail and Camp Ground Road from Camp Ground Road Station 1+50 to Station 3+50. The intent of the additional guardrail on the bike trail side is to reduce the risk of a bicycle hitting the sharp edges of the steel posts. The fabrication and installation of the guardrail shall be in accordance with Section 630 of the Standard Specifications and Highway Standard 630001 except as described below:

1. Only Steel Post Construction will be allowed.
2. The Block-Out on the bike trail side of the guardrail shall be omitted. The rail shall be directly bolted to the steel post.

METHOD OF MEASUREMENT

Steel Plate Beam Guard Rail, Type A (Special) will be measured for payment per foot.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per foot for STEEL PLATE BEAM GUARD RAIL, TYPE A (SPECIAL), which price shall include all materials, fabrication and installation.

SPECIAL PROVISION
CHAIN LINK FENCE REMOVAL

DESCRIPTION

This work shall consist of the removal of existing chain link fence at Wheels, Inc. property; and at Rand Road and the I-294 tollway ramp as shown on the plans and as directed by the Engineer. Removal shall include fence post foundations.

METHOD OF MEASUREMENT

CHAIN LINK FENCE REMOVAL will be measured in place in linear feet.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per square foot for CHAIN LINK FENCE REMOVAL, which price shall include all labor, equipment, excavation, backfilling, and proper disposal of removed materials.

SPECIAL PROVISION

TRAFFIC CONTROL AND PROTECTION, SPECIAL

DESCRIPTION

This work shall consist of the furnishing, installation, maintenance, relocation and removal of all signs, traffic cones, barricades, warning lights, flagger or any other control devices as shown on the plans or as directed by the Engineer for the purpose of regulation, warning or directing traffic during construction of this project.

TRAFFIC CONTROL PLAN

Traffic control and protection, special shall be in accordance with the applicable section the Manual on Traffic Control Devices for Streets and Highways, the applicable Highway Standards, these Special Provisions, and any special details contained herein and in the plans.

ROAD CLOSURE

Campground Road shall be closed to through traffic during construction of Campground Road and the first stage of the culvert and again during the second stage of constructing the Miner Street Eastbound bridge approach and connector pavements. Signage required for this construction shall be placed as detailed on sheets C-21 through C-24.

GENERAL

During the construction near Campground Road, traffic control shall be in accordance with Highway Standard 701501 and 702001 and as shown on sheets C-21 through C-24 of the plans and as directed by the Engineer.

Construction signs shall meet the requirements of the Standard Specifications for Road and Bridge Construction adopted January 1, 2002.

Necessary construction on or in proximity to Rand Road and Ballard Road shall be in accordance with Highway Standard 701606, 702001 and 704001.

BASIS OF PAYMENT

This work will be paid for at the contract lump sum price for "TRAFFIC CONTROL AND PROTECTION, SPECIAL," which price shall be payment in full for all labor, materials, transportation, handling, and any incidentals necessary to furnish, install, maintain, and remove all traffic control devices indicated in the plans and specifications and as directed by the Engineer for all roads involved.

CONCRETE BARRIER, WORK ZONE PAVEMENT MARKING REMOVAL, PAVEMENT MARKING REMOVAL, PAVEMENT MARKING TAPE TYPE III will be measured for payment separately.

SPECIAL PROVISION
TEMPORARY PAVEMENT

DESCRIPTION

This work shall consist of construction of temporary pavement at Miner Street as shown on the plans or as directed by the Engineer.

The contractor shall use either Portland cement concrete as outlined in Section 353 and 354 of the Standard Specifications or bituminous concrete according to Section 355, 356, and 406 of the Standard Specifications, and the special provisions for Bituminous Base Course/Widening Superpave and Superpave Bituminous Concrete Mixtures. The bituminous mixtures to be used are specified in the plans. The thickness of Temporary Pavement shall be as described in the plans. The contractor shall have the option of constructing either material type if both Portland cement concrete and bituminous concrete are shown in the plans.

Articles 355.10 and 406.21 of the Standard Specifications shall not apply.

The removal of the Temporary Pavement shall conform to Section 440 of the Standard Specifications.

METHOD OF MEASUREMENT

Temporary Pavement will be measured in place and the area computed in square yards.

BASIS OF PAYMENT

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

Removal of temporary pavement will be paid for at the contract unit price per square yard for PAVEMENT REMOVAL.

SPECIAL PROVISION
AGGREGATE FOR TEMPORARY ACCESS

DESCRIPTION

This work shall consist of construction and maintenance of an aggregate surface course for temporary roads, approaches and driveways as specified in Article 107.09 of the Standard Specifications.

Aggregate surface shall be constructed in accordance with the applicable portions of Section 402 of the Standard Specifications except that the equipment required for the work will be as directed by the Engineer.

Maintenance shall consist of placing and compacting additional aggregate of the same type and gradation as the surface aggregate.

When the use of the temporary roads, approaches and driveways is discontinued, the surface aggregate placed in its construction and maintenance shall be removed and utilized in the permanent construction or otherwise disposed of as specified in Article 202.03.

BASIS OF PAYMENT

This work will be paid for at the unit price per ton for AGGREGATE FOR TEMPORARY ACCESS which price shall include all costs of furnishing, placing, removing and disposing of excess aggregate used in the construction and maintenance of temporary roads, approaches and driveways.

SPECIAL PROVISION
CONSTRUCTION STAKING

REQUIREMENTS

The Contractor is advised that the Department shall provide the control staking at the beginning of construction for use by the Contractor to establish the necessary lines and grades to construct the project as shown on the Plans and in the Specifications and as specified by the Engineer. Bench mark elevations shall be established by the Engineer as shown on the plans. Traverse (Baseline) lines, offsets for all points of curvature (P.C.), points of tangent (P.T.), points on tangent (P.O.T.), points of intersection (P.I.), and the bisect of the internal angle of each P.I. will be furnished by the Department for use by the Contractor at no cost to the Contractor. All stakes required to perform the work furnished by the Department shall be at the expense of the Department.

All remaining lines and grades required by the Contractor to properly perform the work as specified on the plans and in the specifications as directed by the Engineer and the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002, particularly Article 105.09 shall be the responsibility of the Contractor. The construction surveying work to be performed by the Contractor shall be under the direction of an Illinois Registered Land Surveyor or an Illinois Registered Professional Engineer.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

The construction staking work to be performed by the Contractor, will be paid for at the lump sum price for "CONSTRUCTION STAKING," which price shall be payment in full for performing the work as specified.

SPECIAL PROVISION
TEMPORARY CURB AND GUTTER

DESCRIPTION

This work shall consist of construction of temporary curb and gutter at Miner Street as shown on the plans or as directed by the Engineer.

The contractor shall use Portland cement concrete combination curb and gutter as outlined in Section 606 of the Standard Specifications. Curb and gutter shall be constructed to meet the requirements of type B-6.12, Highway Standard 606001-02, and as directed by the engineer.

The removal of the Temporary Curb and Gutter shall conform to Section 440 of the Standard Specifications.

METHOD OF MEASUREMENT

Temporary Curb and Gutter will be measured in place and the area computed in linear feet.

BASIS OF PAYMENT

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

Removal of temporary curb and gutter will be paid for at the contract unit price per linear foot for CURB AND GUTTER REMOVAL.

SPECIAL PROVISION

BIG BEND LAKE PIPE EXTENSIONS

This work shall consist of furnishing, transporting, storing, and installing one length each of 24" and 96" diameter Hobas pipe at the locations shown on the plans in accordance with the plans, specifications, and as directed by the Engineer. The construction permit under which all work related to installation of modifications at the Big Bend Lake Headwall including the installation of the pipe extensions under this special provision, installation of the Tideflex check valves, sheeting and concrete stipulates that the work must be performed between October 15th of any year and April 1st of the following year. Included within this work is the furnishing of all supports and restraints required to prevent movement of the pipes during concrete placement. Also included is sealant to prevent seepage of concrete into the pipe and alignment devices such as fabricated nipples and/or braces to insure the proper alignment of the pipes. Insertion of temporary of plugs into the 96" and 24" pipes upstream of the headwall is incidental to this item.

MATERIALS

Centrifugally cast fiberglass pipe manufactured and tested in accordance with ASTM D3262 as manufactured by Hobas Pipe USA or equal. Both pipes will be cast into concrete at headwall (refer to plans for depth of concrete). Provide minimum stiffness allowable by pipe manufacturer for placement condition for both pipe diameters.

All supports, restraints and sealant required to provide a satisfactory installation.

CONSTRUCTION METHODS

Refer to the General Notes and Suggested Sequence of Work on Sheet SBB-1. The 96" storm sewer serves a drainage area extending nearly four miles to the east of Big Bend Lake. The Contractor may wish to consider the use of temporary of plugs in the influent sewers to control drainage. This is permissible under dry weather conditions, but provisions must be made for their removal during storm events (refer to General Notes). One option is to provide bypass pumping to keep the work area drained. A second option is to allow the work area to flood and then open gates provided in the temporary sheeting to allow storm flow into the lake. Under this scenario, the gates would be closed after the storm event and the work area be pumped down again and cleaned up so that the work could continue toward completion. Temporary pumping, bypass valves and any other appurtenances used to maintain the site during construction are considered incidental to this pay item.

The approximate location and alignment of the existing pipes is shown on the plans. It is critical that the proposed extension pipes do not move or float during placement of the concrete and that concrete does not seep into the joint between the new pipe and the existing pipes. Record drawings indicate that the existing 96" pipe was cast into the headwall with the bottom slab of the headwall flush with the invert of the pipe. Therefore, the Contractor is to chip out concrete as necessary below the proposed 96" pipe extension so that the invert and alignment of the proposed pipe matches the invert and alignment of the existing pipe to the satisfaction of the Engineer. Seal the joint to prevent seepage of concrete into the pipe during concrete placement to the satisfaction of the Engineer. Bracing placed within the 96" pipe that obstructs flow should be removed to the satisfaction of the Engineer prior to attachment of the Tideflex valve.

The exact alignment and end condition of the 24" pipe is unknown. Neatly trim the proposed pipe to match the face and alignment of the existing pipe and seal the joint to prevent seepage of concrete into the pipe during concrete placement to the satisfaction of the Engineer.

BASIS OF PAYMENT

This work will be paid for at the contract unit price each under the following pay items: "BIG BEND LAKE PIPE EXTENSIONS". Concrete and Tideflex check valves are to be paid under separate pay items.

SPECIAL PROVISION

SEEDING, MULCHING AND FERTILIZING

This work shall consist of preparing the seed bed, and furnishing, transporting, and placing fertilizer, seed, mulch, and other materials required in the seeding operation for the area within the limits as shown on the plans including the slope of the ditches and all other areas disturbed by the Contractor's operation except where other surfacing is required, in accordance with plans, specifications, and as required by the Engineer.

CONSTRUCTION METHODS

Seed Bed Preparation. Seed bed preparation shall not be started until all stones, boulders, debris, and similar material larger than 3 inches in diameter have been removed. The area to be seeded shall be worked to a minimum depth of 3 inches with a disk or other equipment approved by the Engineer, reducing all soil particles to a size not larger than 2 inches in the largest dimension. The prepared surface shall be relatively free from all weeds, clods, stones, roots, sticks, rivulets, gullies, crusting and caking. No seeds shall be sown until the seed bed has been approved by the Engineer.

Fertilizer. Fertilizer having an analysis of 10-6-4, or having a different analysis but still meeting the 5-3-2 ratio requirement, shall be applied at such a rate that each acre to be seeded shall receive a total of 240 pounds of the 3 nutrients. The Engineer may increase or decrease the amount of nutrients required per acre. Fertilizer shall be spread over the seeding area before completion of the ground preparation and incorporated in the soil as a part of the ground preparation operations. The fertilizer shall be a ready-mixed material containing the following nutrients expressed in percent of the total weight of the ready-mixed materials: 10% Nitrogen, 6% available Phosphoric Acid, and 4% water soluble Potash (10-6-4 Analysis).

The following information shall be shown on the fertilizer bags:

- (1) Name and address of manufacturer;
- (2) Name, brand or trademark;
- (3) Number of net pounds of ready-mixed material in the package;
- (4) Chemical composition of analysis;
- (5) Guarantee of analysis.

Grass Seed. Grass seed shall be fresh, clean, and new crop seed having been tested within 6 months prior to the date of seeding composed of the varieties mixed in proportion by weight as shown and testing the minimum percentage of purity and germination indicated.

Seed shall have the equivalent of a minimum of 80 percent pure, live seed. When the percentage of purity multiplied by the percentage germination gives a percentage of pure, live seed less than the 80 percent, the rate of seeding shall be increased proportionately.

Adjusted pounds per acre = $\frac{\text{Specified Pounds} \times 80}{\text{Actual Pure, Live Seed Percent}}$

Kentucky Blue Grass	60 pounds per acre
Alta Fescue	40 pounds per acre
Timothy	20 pounds per acre
Perennial Rye Grass	20 pounds per acre
Red Top	<u>20 pounds per acre</u>
Total	160 pounds per acre

All seeds used shall be labeled in accordance with U.S. Department of Agricultural Rules and Regulations under the Federal Seed Act in effect at the time of installation of the work involved under seeding operations. All seeds shall be furnished in sealed standard containers. Seed may be mixed by dealers or by approved method on the site. Weed seeds shall not exceed 0.35% by weight of the total amount supplied.

If seed is mixed by dealers, the dealer's guaranteed statement of composition of mixture and percentage of purity and germination of each variety must be furnished.

If the Contractor desires to mix the seed at the site, the operation shall be performed under the supervision of the Engineer. Individual varieties of seed must be delivered in a separate unopened original container and the dealer's guaranteed analysis for each variety must be furnished.

The seed shall be proportioned by weight properly mixed and sown by any approved method which will insure uniform distribution over the areas, except that a farm drill shall not be used.

The prescribed seeding shall be sown on the following dates in the IDOT Districts specified below:

In IDOT Districts 1 through 6, the planting times shall be April 1 to June 15 and August 1 to November 1. In IDOT Districts 7 through 9, the planting times shall be March 1 to June 1 and August 1 to November 15. Seeding may be performed outside these dates provided the Contractor guarantees a minimum of 75 percent uniform growth over the entire seeded area(s) after one growing season. The guarantee shall be submitted to the Engineer in writing prior to performing the work. After one growing season, areas not sustaining 75 percent uniform growth shall be interseeded or reseeded, as determined by the Engineer, at the Contractor's expense.

Spring seeding in all IDOT districts may be performed any time after the ground conditions are satisfactory to provide an acceptable seed bed preparation as explained elsewhere in this Special Provision.

No seed shall be sown during high winds or when the ground is not in a proper condition for seeding, nor shall any seed be sown until the purity test has been completed for the seed to be used, and shows that the seed meets the noxious weed seed requirements. The Engineer shall examine and then approve the equipment to be used. Prior to starting work, seeders shall be calibrated and adjusted to sow seeds at the proper

seeding rate. Equipment shall be operated in a manner to insure complete coverage of the entire area to be seeded. The Engineer shall be notified 48 hours prior to beginning the seeding operations so that he can determine by trial runs that a calibration of the seeder will provide uniform distribution at the specified rate per acre. When seed or fertilizer is applied with a hydraulic seeder, the rate of application shall be not less than 1000 gallons of slurry per acre. This slurry shall contain the proper quantity of seed or fertilizer specified per acre. When using a hydraulic seeder the fertilizer nutrients and seed shall be applied in two separate operations.

The optimum depth for seeding shall be 1/4 inch.

When construction operations have been completed after the fall seeding dates, the Contractor shall have the option of using dormant seeding or waiting until spring to apply the seeding. The dormant seeding procedure shall comply with the method explained below and shall be done at no additional expense to the contract. If the dormant seeding option is chosen, the seeding shall be at the Contractor's own risk. If dormant seeding does not provide an adequate stand of grass, the Contractor at his own expense will be required to comply with the spring seeding requirements.

Dormant Seeding. Anytime after the fall seeding dates that the soil is in a workable condition, the Contractor may prepare the seed bed as previously described including the application of fertilizer. The mulch is then applied as provided in this Special Provision, as if the seed had been placed. Within the following dates for Dormant seeding, in the dormant seeding dates shall be between the dormant seeding shall be between Within the dates specified for dormant seeding, (November 2 through March 31 for IDOT Districts 1 through 6 and November 16 through February 28 for IDOT Districts 7 through 9), the Contractor will then broadcast the seed uniformly over the mulch. The seeding rates are to be increased by at least 50 percent. The Contractor will be required to include an additional 32 pounds per acre of spring oats in his dormant seeding mixture.

Mulch. All mulch material shall be non-toxic to vegetation and to the germination of seed and shall be free from the noxious weeds and weed seeds in the group classed as primary noxious weed seed in the existing Illinois Seed Law and shall be approved by the Engineer.

Straw. Straw shall be stalks of wheat, rye, oats, or other approved straw, and shall be air-dried.

Hay. Hay shall be obtained from fields of timothy, red top, mature brome grass, or other mature grasses, or from other sources approved by the Engineer. It shall be air-dried.

Mulching Seeded Areas. Within 24 hours from the time seeding has been performed, the areas shall be given a covering of mulch. On slopes steeper than 3:1 mulch shall be applied the same day as the seed.

The mulch shall be applied uniformly at the rate of approximately 2 tons per acre on seeded areas. The exact rate to be specified by the Engineer. The mulch shall be loose enough to permit air to circulate but compact enough to reduce erosion. If baled mulch

material is used, care shall be taken that the material is in a loosened condition and contains no lumps or knots of compacted material. Mulching shall be anchored by pressing the straw or hay into the soil to a 2 inch depth using a serrated straight disk.

Maintenance and Repair. The Contractor shall be responsible for the proper maintenance of the seeded areas for a period of three (3) months following the planting time or after replanting if dormant seeding has not provided an adequate grass cover.

At the end of the maintenance period, all seeded areas will be inspected by the Engineer. If it is determined that certain areas must be re-seeded, through no fault of the Contractor, these areas shall be re-graded, re-fertilized, re-seeded, and re-mulched as directed by the Engineer. A final inspection will be held after the re-seeding has been completed. No additional maintenance periods will be required.

METHOD OF MEASUREMENT

Seeding, mulching and fertilizing shall be measured to the nearest one hundredth of an acre using the full horizontal width and length of the areas as shown on the plans or as authorized by the Engineer. Deduction will be made for areas within the limit which are not required to be seeded. Dormant seeding, if acceptable, will be measured as specified above. All other work and material shall not be measured for payment but shall be considered incidental.

BASIS OF PAYMENT

This work will be paid at the contract unit price per acre as measured above for "SEEDING, MULCHING, AND FERTILIZING," measured as specified. Any re-seeding required as directed by the Engineer, shall be measured and paid for at the contract unit price for "SEEDING, MULCHING, AND FERTILIZING."

SPECIAL PROVISION

PIPE UNDERDRAINS, PERFORATED PVC 6 INCH

DESCRIPTION

This work shall consist of installing a 6" perforated Polyvinyl Chloride Pipe (PVC) pipe inside a geotextile fabric lined trench containing an aggregate backfill at a location along the east edge of the bike trails from Station 34+00 to Station 37+50 or as directed by the Engineer. The purpose of the underdrain is to intercept storm water runoff from the Levee before it crosses the bike trail.

MATERIALS

Materials shall meet the requirements as set forth below:

Pipe underdrains shall consist of perforated corrugated PVC pipe with a smooth interior in accordance with Section 601.02 (Article 1040.14) of the Standard Specifications.

The aggregate backfill material shall be CA 5 according to Article 1004.06 and Article 1004.01 of the Standard Specifications.

The geotextile fabric shall meet the requirements of Section 1080 of the Standard Specifications.

CONSTRUCTION REQUIREMENTS

The dimensions of the trench shall be 24" wide and a minimum depth of 24". The trench shall have a minimum longitudinal slope of 0.3% draining toward the proposed manhole W-9. The underdrain shall extend through the entire thickness of the manhole wall and be secured with mortar.

The trench shall be lined with the geotextile fabric and backfilled with 4" of aggregate. The PVC underdrain shall then be set on top of the aggregate and then backfilled with additional aggregate to an elevation 4" below finished grade. The geotextile fabric shall then be laid over the aggregate using a 12" minimum lap length and aggregate shall be placed to finished grade.

METHOD OF MEASUREMENT

Pipe Underdrains, Perforated PVC 6 Inch will be measured for payment per foot.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per foot for PIPE UNDERDRAINS, PERFORATED PVC 6 INCH, which price shall include all required excavation, disposal of material, underdrain pipe, geotextile fabric, aggregate and connection to the proposed manhole.

The manhole to which the underdrain outlet will be paid for separately as MANHOLES, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID.

SPECIAL PROVISION

REMOVE, STORE AND REERECT CAMPGROUND ROAD CLOSURE SWING GATE

DESCRIPTION

This work shall consist of removing, storing, and reerecting Campground Road swing gate assembly and appurtenances in-kind, as shown on the plans and as directed by the Engineer. Swing gate bollard foundations shall be reinforced in a stabilized subgrade and verified by the Engineer in a manner which exceeds or is equal to existing conditions. Any parts of the swing gate assembly that are found to be in poor condition, damaged or else otherwise unusable shall be replaced by the contractor at no additional compensation.

BASIS OF PAYMENT

This work will be paid for at the contract unit price each for REMOVE, STORE AND REERECT CAMPGROUND ROAD CLOSURE SWING GATE.

SPECIAL PROVISION

REMOVE, STORE AND REERECT TRAFFIC SIGN WITH LIGHT

DESCRIPTION

This work shall consist of removing, relocating, and/or replacing sign panels and sign panel assemblies with their supports and appurtenances as shown on the plans, directed by the Engineer, and specified in Section 724 of the Standard Specifications with the following revisions:

724.04 Relocate.

Revise the paragraph in subsection (a) to read:

Sign Panel Assembly. The sign panel assembly and supporting channels shall be installed or reinstalled on existing sign supports. New sign supports and/or new mounting hardware may be used as directed by the Engineer.

Remove the last sentence of subsection (b)

All electrical connections must be maintained and protected during construction and replaced with the reerection of the traffic sign as directed by the Engineer.

BASIS OF PAYMENT

This work will be paid for at the contract unit price each for REMOVE, STORE AND REERECT TRAFFIC SIGN WITH LIGHT.

SPECIAL PROVISION
REMOVE, STORE AND RE-ERECT TRAFFIC SIGN

DESCRIPTION

This work shall consist of removing, relocating, and/or replacing sign panels and sign panel assemblies with their supports as shown on the plans, directed by the Engineer and specified in Section 724 of the Standard Specifications with the following revisions:

724.05 Relocate.

Revise the paragraph in subsection (a) to read:

Sign Panel Assembly. The sign panel assembly and supporting channels shall be installed or reinstalled on existing sign supports. New sign supports and/or new mounting hardware may be used as directed by the Engineer.

Remove the last sentence of subsection (b)

BASIS OF PAYMENT

This work will be paid for at the contract unit price each for REMOVE, STORE AND REERECT TRAFFIC SIGN.

SPECIAL PROVISION
EXPLORATION TRENCH 48 INCH

DESCRIPTION

This item shall consist of constructing a trench for the purpose of locating any existing undesirable underground features such as old drain tile, water or sewer lines, septic tank and drain field, animal burrows, buried logs, pockets of undesirable materials or other debris within the construction limits of the proposed levee as shown on the plans.

CONSTRUCTION REQUIREMENTS

The contractor shall notify the Engineer at least 3 days prior to the start of the exploration trench work. The exploration trench shall be constructed at or near the center line of the levee from Station 10+00 to Station 14+50 or as directed by the Engineer.

The trench shall be excavated after the removal of 2 feet of existing material within the limit of the levee. The trench shall be excavated to a depth not less than 48 inches. The width of the trench shall be sufficient to allow proper investigation of the entire trench, but not less than 24 inches.

When an existing pipe or other infrastructure is encountered, the contractor shall notify the Engineer immediately.

Backfill should be placed only after a careful inspection of the excavated trench to ensure that seepage channels or undesirable material are not present; if they are, they should be dug out with a base of sufficient width to allow backfill compaction with regular compaction equipment. The slopes and bottom of the exploration trench shall be scarified as directed. To backfill narrower trenches properly, special compaction procedures and/or equipment will be required. The excavated material meeting the requirements of Satisfactory Material shall be used to backfill the trench and shall be placed and compacted as per the specification for LEVEE EMBANKMENT. Any excess material shall be disposed of according to Article 202.03.

The excavation and disposal of any undesirable materials including obstructions and backfilling of over excavated area beyond the limit of the trench will be paid in accordance with IDOT Standard Specifications Article 109.04.

METHOD OF MEASUREMENT

Exploration Trench 48 Inch will be measured for payment in lineal feet of actual trench constructed.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per foot for EXPLORATION TRENCH 48 INCH, which price shall include all labor and equipment necessary to excavate, backfill and compact the trench.

The excavation of 2 feet of material prior to construction of the trench will be paid for as EARTH EXCAVATION.

SPECIAL PROVISION
LEVEE EMBANKMENT

DESCRIPTION

This work shall consist of the construction of an impervious clay embankment for a flood control levee in accordance with Section 205 of the Standard Specifications, as shown on the plans, and as described in this Special Provision.

SUBSURFACE DATA

Subsurface soil boring logs are shown on the drawing. Subsurface investigation report obtained from subsurface investigations may be examined at the IDNR office. These data represent subsurface information at the boring locations; however, variations may exist in the subsurface between boring locations. Groundwater levels indicated on the soil boring logs were levels found at the time of exploration. The groundwater table can vary significantly depending on time of year, variation from normal precipitation, and river stage.

MATERIALS

1. All materials which are proposed for the levee embankment construction shall be approved by the Engineer.
2. In order to determine the suitability of any proposed borrow pit, the Contractor shall obtain and submit to the Engineer for approval one initial sample along with test results for the tests described below of proposed borrow materials. The Contractor shall submit additional tests for every 6,000 cubic yards of embankment material. This may be accomplished by taking a boring or digging a test pit. The following tests shall be performed by a reputable and experienced soils testing laboratory at the Contractor's expense:
 - a. Soil classification test (ASTM D2487)
 - b. Standard Proctor Laboratory Density (ASTM D 698-Method A or C)
 - c. Natural water content (ASTM D 2216)
 - d. Particle-size Analysis (ASTM D 422)
 - e. Hydrometer Analysis (ASTM D 1140)
 - f. Atterberg Limits (ASTM D-4318)
 - g. Laboratory determination of the permeability of a sample compacted to 95% Standard Proctor Laboratory Density. (ASTM D 5094)
 - h. Shear Strength at 95% Standard dry density. (ASTM D 2166)
 - i. Organic content (ASTM D 2974)
3. The Contractor shall furnish from the site(s) of his choice, all materials necessary to construct the proposed levee embankment. In all cases, the Contractor will be responsible for acquiring all the required land rights, local permits, if any, and for fulfilling any other legal requirements. The Contractor should note that all proposed borrow sites must have an environmental review in accordance with Article 107.22 of the Standard Specifications. At least 30 days prior to delivery of any Levee Embankment material to

the site of the work, the Contractor shall submit soil classification test results, moisture-density curves, gradation curves, and laboratory results of the required tests of the proposed materials.

4. Materials obtained from required excavation which meet or which can be processed to meet the requirements for embankment material, as specified herein, may be utilized in the embankment.
5. The embankment material shall be impervious cohesive soil uncontaminated by deicing salts, chemical waste, sewage or disposals of any kind and meeting the following properties:

The material shall not possess an organic content greater than 5 percent. Frozen embankment materials will not be accepted.

The material shall be:

- a. 40% or more passing No. 200 sieve.
- b. A plasticity index between 11% and 25%.
- c. A liquid limit between 25% and 45%.
- d. A maximum of 20% of sand size particles and no material having particles retained on No. 4 sieve.
- e. Shear strength at 95% standard dry density 1500 psf, minimum.

The distribution and gradation of the materials shall be such that no lenses, pockets, streaks, or layers of material differ substantially in texture or gradation from the surrounding material. In all cases the completed compacted embankment shall meet the permeability and plasticity requirements stated above. All materials shall be free of metals, wood, or other decayable materials.

6. Satisfactory materials shall consist of materials classified in accordance with ASTM D 2487 as CL, free from: roots, top soil and rubble; contamination from hazardous, toxic or radiological substances; trash, debris; and frozen materials.

PREPARATION OF FOUNDATION

After excavation or stripping of the embankment foundation to the extent indicated on the plans or otherwise required, the sides of stump holes, and other similar cavities or depressions shall be broken down so as to flatten out the slopes, and the sides of the cut or hole shall be scarified to provide bond between the foundation material and the fill. All holes caused by grubbing operations and removal of pipes and drains, channels and ditches shall be filled with satisfactory material. This material shall be placed in 8 inch layers to the elevation of the adjacent ground surface and each layer compacted to a density at least equal to that of the adjoining undisturbed material. The slopes and bottom of the exploration trench shall be scarified, as directed. Unless otherwise directed, each depression shall be filled with the satisfactory material. The fill shall be placed in layers, moistened or dried, and compacted in accordance with this provision. Materials which cannot be compacted by roller equipment because of inadequate clearances shall be compacted with power tampers. After filling of depressions and exploration trench and immediately prior to placement of compacted fill in any section of the embankment, the foundation of such section shall be loosened thoroughly by

scarifying, plowing, discing or harrowing to a minimum depth of 8 inches.

Immediately prior to placement of compacted fill on or against the surfaces of any partially completed levee section, all soft or loose material, all material containing cracks or gullies, and all material that does not conform with the specified embankment shall be removed. The remaining surface of the partial fill shall be loosened by scarifying, plowing, discing or harrowing to a minimum depth of 6 inches, and the moisture content shall be adjusted. The surface of the partially completed levee section upon which fill is to be placed shall then be compacted as hereinafter specified. No separate payment will be made for loosening and rolling the foundation area or the surfaces of partial fill sections, but the entire cost thereof shall be included in the contract price for LEVEE EMBANKMENT.

Any continuously yielding or unstable areas discovered at the subgrade level during foundation preparation (proof-rolling) shall be undercut to a maximum depth of 2 feet. If the thickness of the weak soil is greater than 2 feet, the exposed surface shall be stabilized with IDOT CA-6 gradation crushed stone placed in 12 inch loose layers. The stones shall be chocked with fine sand, Satisfactory or Levee Embankment material. The layers shall be compacted equivalent to 95 % of ASTM D-698 maximum dry density as determined by the Engineer. If there is a suspicion of a thick very soft soil, a sheet of Ground Stabilization Fabric (IDOT Article 1080.02) shall be placed, in accordance with IDOT Standard Specifications Section 210, on the exposed subgrade before placing the stone or Satisfactory/Levee Embankment material. This work shall be performed as directed by the Engineer. Payment for the extra work will be in accordance with IDOT Standard Specifications Article 109.04.

PLACING MATERIAL AND COMPACTION

1. The entire embankment shall be placed in 8 inch loose layers with moisture within 3% on the wet side of optimum moisture content compacted to not less than 95% of the standard proctor laboratory maximum dry density.
2. The final slope will be as shown on the plans.
3. If the Contractor so desires, he may request the Engineer's permission to use an approved drying agent, to alter the moisture-density relationship of the soil. No extra compensation will be allowed for the use of a drying agent, but will be considered included in contract unit price for LEVEE EMBANKMENT. The contract completion date will not be extended because of soil moisture condition.
4. Any dewatering required for any of this work will be considered included in the contract unit price for LEVEE EMBANKMENT.
5. The Contractor shall maintain and protect the embankment in a satisfactory condition at all times until final completion and acceptance of all work under the Contract. The Contractor may be required to remove, at his own expense, any embankment material placed outside of prescribed slope lines. Any approved embankment material which is lost during flood events or rendered unsuitable after being placed in the embankment and before final acceptance of the work shall be replaced by the Contractor in a satisfactory manner and no additional payment will be made therefore. The Contractor shall excavate and remove from the embankment any material which is unsatisfactory and shall also dispose of such material and refill the excavated area as directed, all at no cost to the Owner.

6. When sliding occurs in any part of the embankment after they have been placed, but prior to final acceptance of all work under the contract, the Contractor shall repair the slide as directed by the Engineer.
7. The Contractor shall not block or restrict the flow in a natural drain, existing culvert, ditch or channel at any time without obtaining prior written approval from the Engineer. This approval shall not relieve the Contractor from responsibility for any damage caused by his operation. The Contractor shall monitor the river flow and provide sufficient free discharge areas so that conditions are not worsened upstream or downstream by possible floods during construction. Surface water shall be directed away from construction site so as to prevent erosion and undermining of Levee. Diversion ditches, dikes, and grading shall be provided and maintained as necessary during construction.
8. Surface and groundwater control shall be accomplished in coordination with the required excavation and embankment construction. Surface and/or groundwater control may necessitate the use of temporary diversion ditches, dikes, and/or dewatering by the use of pumping. Methods for care of surface water during flood events and for controlling the surface and groundwater levels shall be subject to approval of the Engineer.
9. Over excavation shall be backfilled to grade with satisfactory material and compacted to a density of at least that of the surrounding material.
10. Placement on Surfaces Containing Frozen Materials

Embankment shall not be placed on a foundation which contains frozen material or which has been subjected to freeze-thaw action. This prohibition encompasses all foundation types, including the natural ground, all prepared subgrades whether in an excavation or on an embankment, and all layers of previously placed and compacted earth fill which become the foundations for successive layer of earth fill. All material that freezes or has been subjected to freeze-thaw action during the construction work, or during periods of temporary shutdowns, such as, but not limited to nights, holidays, weekends, winter shutdowns of earthwork operations, shall be removed to a depth that is acceptable to the Engineer and replaced with new material. Alternatively, the material shall be thawed, dried, reworked and recompact to the specified criteria before additional material is placed. The Engineer will determine when placement of fill shall cease due to cold weather. The Engineer may elect to use average daily air temperatures, and/or physical observation of the soils for the determination. Levee embankment material shall not contain frozen clumps of soil, snow or ice.

MOISTURE CONTROL

General

The materials in each layer of the fill shall contain the amount of moisture, within the limits specified or as directed by the Engineer, necessary to obtain the required compaction. Material that is not within the specified moisture content limits after compaction shall be reworked to obtain the specified moisture content, regardless of density.

Insufficient Moisture for Suitable Bond

If the top or contact surfaces of a partial fill section become too dry to permit suitable bond between these surfaces and the additional fill to be placed thereon, the Contractor shall loosen the dried materials by scarifying or discing to such depths as may be directed by the Engineer, shall dampen the loosened material to an acceptable moisture content, and shall compact this layer in accordance with the applicable requirements of compaction.

Excessive Moisture for Suitable Bond

If the top or contact surfaces of a partial fill section become too wet to permit suitable bond between these surfaces and the additional fill to be placed thereon, the wet material shall be scarified and permitted to dry, assisted by discing or harrowing, if necessary, to such depths as may be directed by the Engineer. The material shall be dried to an acceptable moisture content, and shall be compacted in accordance with the applicable requirements of compaction.

Drying Wet Material

Material that is too wet shall be spread on the embankment and permitted to dry assisted by discing or harrowing, if necessary, until the moisture content is reduced to an amount within the specified limits.

Increasing Moisture in Dry Material

The moisture content of material that is too dry, will be adjusted on the levee embankment. The Contractor will add water to the fill material and by harrowing, or other approved methods, work the moisture into the material until a uniform distribution of moisture within the specified limits is obtained. Water applied on a layer of fill on the levee embankment shall be accurately controlled in amount so that free water will not appear on the surface during or subsequent to rolling. Should too much water be added to any part of the embankment, the rolling on that section of the embankment shall be delayed until the moisture content of the materials is reduced to an amount within the specified limits. If it is impracticable to obtain the specified moisture content by wetting or drying the material on the fill, the Contractor may be required to pre-wet or dry back the material at the source of excavation or in the borrow area.

EQUIPMENT TRAFFIC

Equipment traffic on embankment shall be routed to distribute the compactive effort as much as practicable. Ruts formed in the surface of a layer of spread material will be filled before that material is compacted. If, in the opinion of the Engineer, the compacted surface of any layer of material is too smooth to bond properly with the succeeding layer, the surface shall be loosened by scarifying or other approved methods before material from the succeeding layer is placed.

FIELD QUALITY CONTROL

All field quality control testing shall be performed by the Contractor. The in-place density of the materials shall be determined in accordance with ASTM D 1556 or by other methods approved by the Engineer. At least one (1) in-place density test shall be performed on each lift of material or every 1500 cubic yards of completed fill whichever is more frequent with the horizontal locations randomly staggered in the fill. When nuclear method is used for in-place density

testing according to ASTM D 2922 and ASTM D 3017, the first test and every tenth test thereafter for each material type shall include a sand cone correlation test in accordance with ASTM D 1556. The sand cone test shall be performed adjacent to the location of the nuclear test, shall include a nominal 6 inch diameter sand cone, and shall include a minimum wet soil weight of 6 pounds extracted from the hole. Nuclear density testing equipment shall not be used during rain. The density correlations shall be submitted with test results. Each transmittal including density test data shall include a summary of all density correlations for the job neatly prepared on a summary sheet included at a minimum:

1. Meter serial number and operators initials.
2. Standard count for each test.
3. Material type.
4. Probe depth.
5. Moisture content by each test method and the deviation.
6. Wet density by each test method and the deviation.
7. Test location and elevation

TOLERANCES

All embankments shall be constructed to the grades, lines, and cross-sections shown on the drawings. At all points a tolerance of 4 inches above or below the prescribed grade will be permitted in the final dressing, provided that any excess material is so distributed that the crown of the levee drains and that there are no abrupt humps or depressions in any surfaces.

METHOD OF MEASUREMENT

Levee Embankment will be measured for payment by cubic yard, and the quantities will be determined by the average end area method. The basis for measurement will be cross sections taken after clearing, grubbing, and stripping operations and the actual cross sections of the embankment constructed within specified tolerance. Cross sections shall be performed at significant breaks in grade except that the maximum distance between cross sections shall not exceed 50 feet.

BASIS OF PAYMENT

Levee Embankment will be paid for at the contract unit price per cubic yard for LEVEE EMBANKMENT which price shall include foundation preparation, furnishing, placing, shaping and compacting all materials required for the levee construction, including all material testing, moisture control and field quality control.

SPECIAL PROVISION
TIDEFLEX CHECK VALVES

This work shall consist of furnishing, transporting, storing, and installing Tideflex check valves with all required accessories of the size and at the locations shown on the plans in accordance with the plans, specifications, and as directed by the Engineer.

MATERIALS

The Check valves shall be designed to effectively control flows under seating head conditions. Maximum design head for all locations shall be based on a hydraulic grade line of elevation 636 feet (NGVD).

The Check valves shall be a series TF-1 slip-on flat bottom check valve as manufactured by the Red Valve Co., Inc. of Carnegie, PA 15106 or approved equal. Slip-on with stainless steel banding. Valves shall be provided to fit the outside diameter of the pipes furnished under this project.

CONSTRUCTION METHODS

The check valve and accessories shall be installed at the locations shown on the plans and to the satisfaction of the Engineer.

Orient the Tideflex valves discharging to the river so that the curl faces downstream.

Two Tideflex valves are to be installed in manholes. In both of these manholes the Contractor shall extend the pipe into the manhole an adequate length to affix the slip-on valve.

BASIS OF PAYMENT

This work will be paid for at the contract unit price each under the following pay items:

- "TIDEFLEX FOR 6" DIAMETER DUCTILE IRON PIPE"
- "TIDEFLEX FOR 12" REINFORCED CONCRETE PIPE"
- "TIDEFLEX FOR 15" REINFORCED CONCRETE PIPE"
- "TIDEFLEX FOR 24" REINFORCED CONCRETE PIPE"
- "TIDEFLEX FOR 24" HOBAS PIPE"
- "TIDEFLEX FOR 36" REINFORCED CONCRETE PIPE"
- "TIDEFLEX FOR 96" HOBAS PIPE"

SPECIAL PROVISIONS

WHEELS PUMP STATION PUMPS, PUMP CONTROLS, PIPING AND APPURTENANCES

DESCRIPTION

This items shall consist of labor, materials, services, and supplies required to furnish and install pump station pumps, pump controls, piping and appurtenances for the Wheels Storm Water Pump Station discharge piping including check valves, fittings, adapters and wall pipes in accordance with Drawings and Specifications. Tideflex valves are not included in this section and are paid for separately.

Prior to the start of this work, the Contractor shall prepare and submit for approval detailed piping installation drawings. These shall be prepared on the basis of actual equipment being furnished and actual dimensions of walls, openings and other significant elements.

QUALITY ASSURANCE

The pipe manufacturer shall have at least ten (10) years prior experience in manufacturing the type of pipe it proposes to furnish.

SUBMITTALS

The following shop drawings shall be submitted.

- Fully Dimensioned layout of pipe, fittings, couplings, and wall pipe.
- Pipe size, type and materials shall be labeled on drawing and a schedule shall be included. Cross sections showing elevation of pipe, fittings and couplings.
- Catalog data for pumps, pipe, couplings, and fittings.
- Furnish curves showing the principal characteristics of the proposed pump. Curves shall show the relation between flow and head from no delivery to maximum delivery. The curves shall also show the relation between efficiency and delivery and the horsepower shaft input of the pump between the limits above stated. Also furnish overall efficiency curve for the unit when certified tests are requested.
- Control panel dimensioned front and side views of enclosures. Component layout and wiring drawings.
- The Owner reserves the right to witness the test. The Contractor shall notify the Owner at least 14 days prior to the test. Travel and other expenses to witness the test will be borne by the Owner.

MATERIALS

A. Ductile Iron Pipe and Fittings

- Ductile iron pipe shall meet the requirements of AWWA C115/A21.15, Class 52 for all buried pipes and Class 53 for flanged or grooved end pipe.
- Ductile iron fittings shall have flanged or grooved end joints (AWWA C606) within the pump station and mechanical restrained joints where buried.
- Fittings shall be provided as shown and specified and shall be ductile iron meeting

the requirements of AWWA C110.

B. Submersible Sewage Pumps

Acceptable Manufacturers: Subject to compliance with the requirements of the Contract, the products shall be by one (1) of the following:

- Pumpex Pumps
- Flygt Pumps, Inc.
- KSB Pumps, Inc.

Operating Characteristics:

- Number of Pumps 2
- Shutoff 0 gpm at 40 feet TDH
- Design Point 450 gpm at 21 feet TDH
- Maximum Speed 1200 rpm
- HP 5
- General: Pumps shall be non-clog submersible with cast iron ASTM A-48 impellers capable of passing a 4-inch sphere. The pump shall be protected with a compression fitting and epoxy potted areas at the power cord entry to the pump. The pump discharge shall be fitted with a 6" standard ASA, 125 lb. flange faced and drilled. All external mating parts shall be machined and Buna N Rubber O'-ring sealed on a beveled edge.
- Bearings and Shaft: An upper radial bearing and a lower thrust bearing shall be provided. These shall be heavy-duty single row ball bearings which shall be permanently lubricated by the dielectric oil which fills the motor housing. The upper radial bearing shall have a minimum B-10 life at the specified condition of 40,000 hours and the lower thrust bearing shall have a minimum 6-10 life at the specified condition of 40,000 hours. Lower bearings shall be heavy-duty double row angular contact and shall be permanently lubricated. Bearings shall be locally available. The shaft shall be machined from a solid 420 stainless steel and be a design which is of large diameter with minimum overhang to reduce shaft deflection and-prolong bearing life.
- The pump shall be provided with two mechanical seals mounted in tandem with an oil chamber between the seals. John Crane Type 21, BF1 C1, or equal seals shall be used with the rotating seal faces being carbon or glass filled Teflon and the stationary seal faces to be ceramic. The lower seal shall be replaceable without disassembly of the seal chamber and without the use of special tools. Pump-out vanes shall be provided on the backside of the impeller to keep contaminants out of the seal area. Impeller shall be of the single-vane, non-clogging design and have pump-out vanes on the front and backside of the impeller to prevent grit and other materials from collecting in the seal area.
- Impellers shall be dynamically balanced. The tolerance values shall be as fitted according to the International Standard Organization grade 6.3 for rotors in rigid

frames. The impeller shall be threaded shaft or tapered shaft and key driven. A 300 series stainless steel washer and impeller bolt shall be used to fasten the impeller to the shaft.

- A volute case wearing ring shall be provided to minimize impeller wear. The wear ring shall be alloy 230 brass, ASTM B-43 and held by 300 series stainless steel fasteners. The wear ring shall be easily replaceable in the field.
- Miscellaneous Hardware: All nuts, bolts and other miscellaneous hardware in contact with the pumped media shall be 316 series stainless steel as a minimum.

C. Electric Motor

- The Pumping Unit Motor shall be of close coupled, oil filled, submersible type and shall operate on 460 Volt, 3 phase, 60 Hz. Motor shall be provided with factory wired power cable and a control cable, of adequate lengths for wiring to the junction box as shown on the Drawings. Field splicing of factory wired cables will not be allowed. Cables shall be of the watertight neoprene jacketed type. Motor speed shall not exceed 1200 rpm. The pump shall deliver the rated quantity at the rated total discharge head without exceeding the nameplate rating of the motor considering a 1.15 service factor and be non-overloading throughout entire operating range without employing service factor. The total pump head shown in these special provisions include the static head, velocity head, and all piping entrance, exit and frictional losses but are exclusive of any pump losses.
- Pump motor shall be suitable for installation in Class I, Division 2 locations in accordance with NEC 501.8.
- The stator, rotor and bearings shall be mounted in a sealed submersible type housing. The stator windings shall be Class F insulation, (155°C.) and a dielectric oil filled motor, NEMA design B. Stators shall be securely held in place with a removable end-ring and threaded fasteners so they may be easily removed in the field without the use of heat or a press. Stators held by a heat shrink shall not be acceptable. Stators shall be capable of being repaired or rewound by local motor service station. Units which require service only by the factory shall not be acceptable.
- The pump and motor shall be specifically designed so that they may be operated partially dry or completely submerged in the liquid being pumped. The pump motor shall not require cooling water jackets.
- Electrical Power Cord: Electrical power cord shall be water resistant 600V, 60°C, minimum, and applied dependent on amp draw for size. Strain relief shall be provided. The power cable entry into the cord cap assembly shall first be made with a compression fitting. Each individual lead shall be stripped down to bare wire, at staggered intervals, and each strand shall be individually separated. This area of the cord cap shall then be filled with an epoxy compound potting which shall prevent water contamination/seepage to gain entry in the event of wicking or capillary attraction. The power cord leads shall then be connected to the motor reads with extra heavy connectors having brass inserts with a screwed wire to wire connection. The connection box wiring shall be separated from the motor housing wiring by stripping each lead down to bare wire, at staggered intervals, and separating each strand. This area shall be filled with an epoxy compound potting. The cord cap assembly where bolted to the connection box assembly and the connection box assembly where bolted to the motor housing shall be sealed with a Buna N Rubber a-ring on a beveled edge to provide proper sealing.

- The pump shall be equipped with a seal leak detection probe and warning system. This shall be designed to alert maintenance personnel of lower seal failure without having to take the unit out of service for inspection or requiring access for checking seal chamber oil level and consistency. There shall be an electric probe or seal failure sensor installed in the seal chamber between the two tandem mechanical seals. If the lower seal fails, contaminants which enter the seal chamber shall be detected by the sensor and send a signal to operate the specified warning device. Pumping unit motors shall be equipped with winding temperature sensor and moisture detector. A matching temperature and moisture monitor shall be provided for mounting in the motor starter. The motor starter shall be equipped with overload heaters so all normal overloads are protected by external heater block. Furnish a complete pump monitoring and protection system consisting of a intrinsically safe solid state monitoring module to be installed in the motor starter cubicle and independent probes integral to the pump/motor wired to a sealed cable entry terminal box for connection of submersible control cables.
- Monitoring unit shall be a solid state, intrinsically safe module designed for mounting within the motor starter cubicle. Monitoring unit shall employ conventional logic and noise isolated electronics. Monitoring unit shall accept inputs from the sensors specified and shall output independent contacts which close to alarm each condition, or separate independent output terminals suitable for direct connection to interposing relays for alarm contact development. Provide a separate N.O. alarm contact, rated at 120 V, 5A inductive, which closes on any failure. Monitor unit shall be suitable for operation from a 120 V AC unregulated, unlimited power supply from the motor starter control power circuit. Provide any additional equipment or appurtenances required to provide current and voltage limited intrinsically safe installation as specified. The monitoring unit shall accept separate isolated N.O. contacts which close to indicate pump running and to reset after pump trip.
- Sensors shall be independently wired to the monitoring unit. Provide the following sensors for each pump:

Stator leak (four required).

Stator temperature (two per phase, field test and connect to highest reading obtained).

D. Discharge Elbow and Disconnect

- A slide away coupling shall be provided for each pump to allow the pump to be installed or removed without requiring personnel to enter the wet well. The coupling shall consist of a discharge elbow securely fastened to the floor of the wet well, a movable bracket that bolts to the pump discharge flange and mates with the discharge elbow, and a guiding system to guide the pump and movable bracket from the discharge elbow to the access--cover in the top of the wet well. Mating of the movable bracket to the discharge elbow shall be accomplished by a linear downward motion.
- The guiding system shall consist of stainless steel components or guide rails of sizes and lengths as required and as shown on the Drawings. Guiding system shall terminate on the discharge elbow and a bracket attached to the wet well access hatch cover. A sliding guide bracket shall be attached to the pump. The sliding carrier guide bracket shall be fabricated from steel and protected with a corrosion resistant coating or shall be a stainless steel fabrication. The carrier shall be

mounted on the pump so lifting is done from the carrier. Fasteners shall be 300 series stainless steel.

- A discharge elbow shall be furnished for each pump. The discharge base elbow shall be attached to a flat base plate which rests squarely on the pump-station wet-well floor. The base plate shall include guide system supports which secure the guides at the bottom. All fasteners shall be 300 series stainless steel.
- Each pumping unit shall be provided with a stainless steel lifting chain or cable. The lifting chain or cable shall be of sufficient length to extend from the pumping unit at one end to the top of the lift station wet well at the other end. The access frame shall provide a hook to attach the lifting chain or cable when not in use. The lifting chain or lifting cable shall be sized according to the pump weight.

E. Direct Acting Float Switches

- Direct acting float switches equal to Healy-Ruff Co., Type PProto-Float for level sensing complete with mounting pipe and stainless steel brackets shall be provided. The floats shall sense water levels as shown on the Drawings. The float shall contain a metal enclosed mercury switch which closes or opens its contacts when floating in a horizontal position. The non-inductive mercury switch rating shall be 10 amps at 120 V, 60Hz. The cable shall be Neoprene Type SO. Each float shall be provided with sufficient length of cable to allow a direct connection to the junction box without field splicing. Float switches shall be provided for on-off operation of the sump pump as well as for power interruption as shown on the Drawings.

F. Sump Pump Access Frame and Hatch

- All access frame assembly shall be supplied with separate hinged cover for removal of the sump pump. Access frame and hatch shall be corrosion resistant and of proper size, to facilitate equipment removal but no larger than as shown on the Drawings. Upper guiding system brackets shall be attached to the access frame as well as the float holding bracket. Cover shall be provided with lifting handle, safety latch to hold cover in open position and locking hasp. Access frame assembly and door shall be aluminum with 300 series stainless steel hinges and hardware. Hatch doors shall mount flush to the frame when in the closed and locked position. The door shall be aluminum tread plate to provide a skid-proof surface. Load rating of door and frame assembly shall be 300 psf. Signage shall be provided and securely fastened to the access hatch (interior side) advising that proper ventilation must be provided prior to entering the wet-well area. Signage shall be of a corrosion resistant material and shall be held in place by stainless steel fasteners. Signage shall be positioned such that when the hatch is opened the sign shall be in full view and easily legible.

PAINTING AND COATING

- All ductile-iron pipe and fittings shall be tar coated outside and cement lining inside in accordance with AWWA C104 requirements. All bolts, nuts, and couplings shall be coated after the joint has been made.
- Flanged Coupling Adapter shall be shop coated with liquid epoxy primer in accordance with the requirements of AWWA C210 or fusion-bonded epoxy coating per AWWA C213. An additional shop coat of liquid epoxy primer shall be provided

on the interior of the middle ring. The exterior of flanged coupling adapter shall be finish coated after installation with the same coating as the pipe.

- Shop coats and finish coats shall be compatible.

Control Panel: The control panel enclosure shall be 14 or 16 gauge stainless steel. Panel shall have a lockable removable door, hinges constructed of 304 stainless steel and stainless steel hinge pins. Enclosure standards shall meet UL 508 and CSA for NEMA 4X. Enclosure shall comply with NEMA Type 4X and IEC 529, IP66. The minimum enclosure dimensions shall be 48" x 36" x 16" minimum.

Back-panel construction shall be 12 or 14 gauge steel construction. Panel shall also maintain UL, CSA, and NEMA ratings when installed. All operational status components will be mounted on the swing panel. Items included will be all alarm indicators, overload reset for each pump, HOA selector switch for each pump, and elapsed time meter for each pump.

Pump circuits provided shall be adequate to meet all the requirements of the system. Components used shall include with the following:

1. Pump motor starters shall be NEMA rated and properly sized to ensure proper operation of the pumps.
2. Pump circuit breakers shall be molded case and rated properly to ensure proper operation of the pumps.
3. Applications with three phase power shall supply phase protection. All applications single or three phase require surge protection.
4. All three phase applications will require a transformer to convert voltage to 120VAC for controls operation.
5. Transformer shall be fused on the primary side and have a controls circuit breaker on the secondary. Transformer shall be sized properly to accommodate all controls functions.
6. Pump alternator relay shall alternate the lead pump on consecutive starts.
7. Pump controls shall include overload reset button and non-resetable run time meter for each pump.

The controls circuit shall be adequate to meet all the requirements of the system. The controls will provide all pump start signals and alarm condition signals as well as provide monitoring information. The components used shall include the following:

1. 100 Watt heater that is thermostatically controlled with an adjustable selector.
2. Accommodations for intrinsically safe inputs into control panel to determine pump run and alarm conditions. Intrinsically safe control panels shall comply with UL 913 as well as UL 508.
3. Seal fail relays shall be provided for the pumps. Seal Fail units shall be operable with 24VAC. Appropriate fused transformer is required for Seal Fail operation.

Interior of panel enclosure shall be separated into an intrinsically safe side and non-intrinsically safe side.

All wiring shall be labeled at both termination points.

All components shall be labeled with engraved labels, black back with white lettering.

Swing Panel shall be 12 gauge steel construction. Swing Panel shall also maintain UL, CSA, and NEMA ratings when installed.

Controls shall be provided by a reputable control manufacturing company with a minimum of 10 years of custom control fabrication, UL 508 and 913 listed, and minimum 3 year warranty.

The pump control panel stand shall be constructed from 304 stainless steel. The stand shall have a panel mounting height of a minimum of 24". The stand will provide a lockable door that opens toward the center of the wet well; and when in the locked position will secure the outside end of the vent-cable tray removable grate. The stand shall be constructed from 304 stainless steel and installed to permit free movement of the outside air. The stand shall be constructed with legs that extend down past the top of the top slab, to allow (4) 1/2" anchor bolts bolted to precast inserts, to secure the stand to the side of the top slab.

Ground Rod: Ground rods shall be 10 feet in length, 3/4 diameter copper-clad steel in accordance with the requirements of Section 1087 of the Standard Specifications. Ground rods shall be installed in accordance with the requirements of Section 806 of the Standard Specifications.

The control panel foundation as detailed on the plans will be considered incidental to the control panel installation.

INSTALLATION

- All flanged joints shall be made temporarily with gaskets in place using a minimum number of bolts to support the piping. Any misalignment of the assembled piping shall be adjusted or corrected in a manner approved by the Engineer.
- Tightening of flange bolts to "pull up" misaligned flanges will not be permitted and shall not be done; The misaligned flanges shall be machined to fit, or approved spacer pieces and gaskets shall be installed if necessary and directed by the Engineer. The temporary assembly of the flanged piping shall demonstrate that there will be no undue stresses in the piping or at the connections to the equipment. The temporary assembly shall be approved by the Engineer before the joints are tightened. Flanged joints shall then be completed and made watertight and the tension in the flange bolts, when tightened, shall not exceed 15,000 psi at the minor diameter of the bolt threads.
- Restrained Flanged Coupling Adapter diametrically opposite bolts shall be equally tightened on the connection so that the gaskets will be brought up evenly all around the pipe. Final tightening shall be done with torque wrenches set for the torque recommended by the coupling manufacturer.
- Installation of Pipe and Fittings in accordance with the specifications contained herein and in accordance with the manufacturer's recommendations and approved shop drawings.
- Installation of the pumping equipment: In complete accordance with the manufacturer's

- instructions and recommendations, and the reviewed shop drawings.
- Electrical work shall be in compliance with the ordinances and bylaws of the city, state, federal, or other political subdivision having jurisdiction. In the absence of other more stringent authority, the work shall conform to the requirements of the NEC.
 - Perform factory tests at the expense of the Contractor. Travel and other expenses to witness the test shall be borne by the Owner. The Owner reserves the right to witness the test.
 - Field Tests: Verify specification performance criteria and other tests as recommended by manufacturer. The Contractor to notify the Owner at least 14 days prior to the test.
 - Subject each pump to a 30 minute field operational test before acceptance as follows:

Properly install unit under test in the wet well: Confirm:

Discharge connection is firmly jointed.

Proper service voltage is being supplied.

Correct rotation of the impeller.

Cooling by forced or circulated air: Not allowed.

- Capacity Test: On two occasions, fill wet well with liquid to an elevation sufficient to allow each single pump to operate for three minutes, independent of the control regime. Measure time required to pump down known quantity of liquid as evidence of each pump's capacity.

METHOD OF MEASUREMENT

The pump station piping and appurtenances will be measured for payment as a lump sum upon complete installation and satisfactory operation.

BASIS OF PAYMENT

This work will be paid as part of the contract lump sum price for WHEELS PUMP STATION PUMPS, PUMP CONTROLS, PIPING AND APPURTENANCES COMPLETE which shall be payment in full for the work described herein unless otherwise noted.

SPECIAL PROVISIONS

MINER STREET PUMP STATION PUMP, PUMP CONTROLS, PIPING AND APPURTENANCES

DESCRIPTION

This items shall consist of labor, materials, services, and supplies required to furnish and install pump station pump, pump controls, piping and appurtenances for the Miner Street Storm Water Pump Station discharge piping including fittings, adapters and wall pipes in accordance with Drawings and Specifications. Tideflex valves are not included in this section and are paid for separately.

Prior to the start of this work, the Contractor shall prepare and submit for approval detailed piping installation drawings. These shall be prepared on the basis of actual equipment being furnished and actual dimensions of walls, openings and other significant elements.

QUALITY ASSURANCE

The pipe manufacturer shall have at least ten (10) years prior experience in manufacturing the type of pipe it proposes to furnish.

SUBMITTALS

The following shop drawings shall be submitted.

- Fully Dimensioned layout of pipe, fittings, couplings, and wall pipe.
- Pipe size, type and materials shall be labeled on drawing and a schedule shall be included. Cross sections showing elevation of pipe, fittings and couplings.
- Catalog data for pumps, pipe, couplings, and fittings.
- Furnish curves showing the principal characteristics of the proposed pump. Curves shall show the relation between flow and head from no delivery to maximum delivery. The curves shall also show the relation between efficiency and delivery and the horsepower shaft input of the pump between the limits above stated. Also furnish overall efficiency curve for the unit when certified tests are requested.
- Control panel dimensioned front and side views of enclosures. Component layout and wiring drawings.
- The Owner reserves the right to witness the test. The Contractor shall notify the Owner at least 14 days prior to the test. Travel and other expenses to witness the test will be borne by the Owner.

MATERIALS

- A. Ductile Iron Pipe and Fittings
- Ductile iron pipe shall meet the requirements of AWWA C115/A21.15, Class 52 for all buried pipes and Class 53 for flanged or grooved end pipe.
 - Ductile iron fittings shall have flanged or grooved end joints (AWWA C606) within the pump station and mechanical restrained joints where buried.

- Fittings shall be provided as shown and specified and shall be ductile iron meeting the requirements of AWWA C110.

B. Submersible Sewage Pumps

Acceptable Manufacturers: Subject to compliance with the requirements of the Contract, the products shall be by one (1) of the following:

- Pumpex Pumps
- Flygt Pumps, Inc.
- KSB Pumps, Inc.

Operating Characteristics:

- Number of Pumps 1
- Shutoff 0 gpm at 49 feet TDH
- Design Point 1500 gpm at 15 feet TDH
- Maximum Speed 1200 rpm
- HP 20
- General: Pumps shall be non-clog submersible with cast iron ASTM A-48 impellers capable of passing a 4-inch sphere. The pump shall be protected with a compression fitting and epoxy potted areas at the power cord entry to the pump. The pump discharge shall be fitted with a 6" standard ASA, 125 lb. flange faced and drilled. All external mating parts shall be machined and Buna N Rubber O'-ring sealed on a beveled edge.
- Bearings and Shaft: An upper radial bearing and a lower thrust bearing shall be provided. These shall be heavy-duty single row ball bearings which shall be permanently lubricated by the dielectric oil which fills the motor housing. The upper radial bearing shall have a minimum B-10 life at the specified condition of 40,000 hours and the lower thrust bearing shall have a minimum B-10 life at the specified condition of 40,000 hours. Lower bearings shall be heavy-duty double row angular contact and shall be permanently lubricated. Bearings shall be locally available. The shaft shall be machined from a solid 420 stainless steel and be a design which is of large diameter with minimum overhang to reduce shaft deflection and-prolong bearing life.
- The pump shall be provided with two mechanical seals mounted in tandem with an oil chamber between the seals. John Crane Type 21, BF1 C1, or equal seals shall be used with the rotating seal faces being carbon or glass filled Teflon and the stationary seal faces to be ceramic. The lower seal shall be replaceable without disassembly of the seal chamber and without the use of special tools. Pump-out vanes shall be provided on the backside of the impeller to keep contaminants out of the seal area. Impeller shall be of the single-vane, non-clogging design and have pump-out vanes on the front and backside of the impeller to prevent grit and other materials from collecting in the seal area.

- Impellers shall be dynamically balanced. The tolerance values shall be as fitted according to the International Standard Organization grade 6.3 for rotors in rigid frames. The impeller shall be threaded shaft or tapered shaft and key driven. A 300 series stainless steel washer and impeller bolt shall be used to fasten the impeller to the shaft.
- A volute case wearing ring shall be provided to minimize impeller wear. The wear ring shall be alloy 230 brass, ASTM B-43 and held by 300 series stainless steel fasteners. The wear ring shall be easily replaceable in the field.
- Miscellaneous Hardware: All nuts, bolts and other miscellaneous hardware in contact with the pumped media shall be 316 series stainless steel as a minimum.

C. Electric Motor

- The Pumping Unit Motor shall be of close coupled, oil filled, submersible type and shall operate on 460 Volt, 3 phase, 60 Hz. Motor shall be provided with factory wired power cable and a control cable, of adequate lengths for wiring to the junction box as shown on the Drawings. Field splicing of factory wired cables will not be allowed. Cables shall be of the watertight neoprene jacketed type. Motor speed shall not exceed 1200 rpm. The pump shall deliver the rated quantity at the rated total discharge head without exceeding the nameplate rating of the motor considering a 1.15 service factor and be non-overloading throughout entire operating range without employing service factor. The total pump head shown in these special provisions include the static head, velocity head, and all piping entrance, exit and frictional losses but are exclusive of any pump losses.
- Pump motor shall be suitable for installation in Class I, Division 2 locations in accordance with NEC 501.8.
- The stator, rotor and bearings shall be mounted in a sealed submersible type housing. The stator windings shall be Class F insulation, (155°C.) and a dielectric oil filled motor, NEMA design B. Stators shall be securely held in place with a removable end-ring and threaded fasteners so they may be easily removed in the field without the use of heat or a press. Stators held by a heat shrink shall not be acceptable. Stators shall be capable of being repaired or rewound by local motor service station. Units which require service only by the factory shall not be acceptable.
- The pump and motor shall be specifically designed so that they may be operated partially dry or completely submerged in the liquid being pumped. The pump motor shall not require cooling water jackets.
- Electrical Power Cord: Electrical power cord shall be water resistant 600V, 60°C, minimum, and applied dependent on amp draw for size. Strain relief shall be provided. The power cable entry into the cord cap assembly shall first be made with a compression fitting. Each individual lead shall be stripped down to bare wire, at staggered intervals, and each strand shall be individually separated. This area of the cord cap shall then be filled with an epoxy compound potting which shall prevent water contamination/seepage to gain entry in the event of wicking or capillary attraction. The power cord leads shall then be connected to the motor leads with extra heavy connectors having brass inserts with a screwed wire to wire connection. The connection box wiring shall be separated from the motor housing wiring by stripping each lead down to bare wire, at staggered intervals, and separating each strand. This area shall be filled with an epoxy compound potting. The cord cap assembly where bolted to the connection box assembly and the connection box

- assembly where bolted to the motor housing shall be sealed with a Buna N Rubber a-ring on a beveled edge to provide proper sealing.
- The pump shall be equipped with a seal leak detection probe and warning system. This shall be designed to alert maintenance personnel of lower seal failure without having to take the unit out of service for inspection or requiring access for checking seal chamber oil level and consistency. There shall be an electric probe or seal failure sensor installed in the seal chamber between the two tandem mechanical seals. If the lower seal fails, contaminants which enter the seal chamber shall be detected by the sensor and send a signal to operate the specified warning device. Pumping unit motors shall be equipped with winding temperature sensor and moisture detector. A matching temperature and moisture monitor shall be provided for mounting in the motor starter. The motor starter shall be equipped with overload heaters so all normal overloads are protected by external heater block. Furnish a complete pump monitoring and protection system consisting of a intrinsically safe solid state monitoring module to be installed in the motor starter cubicle and independent probes integral to the pump/motor wired to a sealed cable entry terminal box for connection of submersible control cables.
 - Monitoring unit shall be a solid state, intrinsically safe module designed for mounting within the motor starter cubicle. Monitoring unit shall employ conventional logic and noise isolated electronics. Monitoring unit shall accept inputs from the sensors specified and shall output independent contacts which close to alarm each condition, or separate independent output terminals suitable for direct connection to interposing relays for alarm contact development. Provide a separate N.O. alarm contact, rated at 120 V, 5A inductive, which closes on any failure. Monitor unit shall be suitable for operation from a 120 V AC unregulated, unlimited power supply from the motor starter control power circuit. Provide any additional equipment or appurtenances required to provide current and voltage limited intrinsically safe installation as specified. The monitoring unit shall accept separate isolated N.O. contacts which close to indicate pump running and to reset after pump trip.
 - Sensors shall be independently wired to the monitoring unit. Provide the following sensors for each pump:

Stator leak (four required).

Stator temperature (two per phase, field test and connect to highest reading obtained).

D. Discharge Elbow and Disconnect

- A slide away coupling shall be provided for the pump to allow the pump to be installed or removed without requiring personnel to enter the wet well. The coupling shall consist of a discharge elbow securely fastened to the floor of the wet well, a movable bracket that bolts to the pump discharge flange and mates with the discharge elbow, and a guiding system to guide the pump and movable bracket from the discharge elbow to the access--cover in the top of the wet well. Mating of the movable bracket to the discharge elbow shall be accomplished by a linear downward motion.
- The guiding system shall consist of stainless steel components or guide rails of sizes and lengths as required and as shown on the Drawings. Guiding system shall terminate on the discharge elbow and a bracket attached to the wet well access hatch cover. A sliding guide bracket shall be attached to the pump. The sliding carrier guide bracket shall be fabricated from steel and protected with a corrosion

resistant coating or shall be a stainless steel fabrication. The carrier shall be mounted on the pump so lifting is done from the carrier. Fasteners shall be 300 series stainless steel.

- A discharge elbow shall be furnished for the pump. The discharge base elbow shall be attached to a flat base plate which rests squarely on the pump-station wet-well floor. The base plate shall include guide system supports which secure the guides at the bottom. All fasteners shall be 300 series stainless steel.
- Each pumping unit shall be provided with a stainless steel lifting chain or cable. The lifting chain or cable shall be of sufficient length to extend from the pumping unit at one end to the top of the lift station wet well at the other end. The access frame shall provide a hook to attach the lifting chain or cable when not in use. The lifting chain or lifting cable shall be sized according to the pump weight.

E. Direct Acting Float Switches

- Direct acting float switches equal to Healy-Ruff Co., Type PRoto-Float for level sensing complete with mounting pipe and stainless steel brackets shall be provided. The floats shall sense water levels as shown on the Drawings. The float shall contain a metal enclosed mercury switch which closes or opens its contacts when floating in a horizontal position. The non-inductive mercury switch rating shall be 10 amps at 120 V, 60Hz. The cable shall be Neoprene Type SO. Each float shall be provided with sufficient length of cable to allow a direct connection to the junction box without field splicing. Float switches shall be provided for on-off operation of the sump pump as well as for power interruption as shown on the Drawings.

F. Sump Pump Access Frame and Hatch

- All access frame assembly shall be supplied with separate hinged cover for removal of the sump pump. Access frame and hatch shall be corrosion resistant and of proper size, to facilitate equipment removal but no larger than as shown on the Drawings. Upper guiding system brackets shall be attached to the access frame as well as the float holding bracket. Cover shall be provided with lifting handle, safety latch to hold cover in open position and locking hasp. Access frame assembly and door shall be aluminum with 300 series stainless steel hinges and hardware. Hatch doors shall mount flush to the frame when in the closed and locked position. The door shall be aluminum tread plate to provide a skid-proof surface. Load rating of door and frame assembly shall be H20 loading for off street locations. Signage shall be provided and securely fastened to the access hatch (interior side) advising that proper ventilation must be provided prior to entering the wet-well area. Signage shall be of a corrosion resistant material and shall be held in place by stainless steel fasteners. Signage shall be positioned such that when the hatch is opened the sign shall be in full view and easily legible.

PAINTING AND COATING

- All ductile-iron pipe and fittings shall be tar coated outside and cement lining inside in accordance with AWWA C104 requirements. All bolts, nuts, and couplings shall be coated after the joint has been made.
- Flanged Coupling Adapter shall be shop coated with liquid epoxy primer in accordance with the requirements of AWWA C210 or fusion-bonded epoxy coating per AWWA C213. An additional shop coat of liquid epoxy primer shall be provided on the interior of the

middle ring. The exterior of flanged coupling adapter shall be finish coated after installation with the same coating as the pipe.

- Shop coats and finish coats shall be compatible.

Control Panel: The control panel enclosure shall be 14 or 16 gauge stainless steel. Panel shall have a lockable removable door, hinges constructed of 304 stainless steel and stainless steel hinge pins. Enclosure standards shall meet UL 508 and CSA for NEMA 4X. Enclosure shall comply with NEMA Type 4X and IEC 529, IP66. The minimum enclosure dimensions shall be 48" x 36" x 16" minimum.

Back-panel construction shall be 12 or 14 gauge steel construction. Panel shall also maintain UL, CSA, and NEMA ratings when installed. All operational status components will be mounted on the swing panel. Items included will be all alarm indicators, overload reset for each pump, HOA selector switch for each pump, and elapsed time meter for each pump.

Pump circuits provided shall be adequate to meet all the requirements of the system. Components used shall include with the following:

1. Pump motor starters shall be NEMA rated and properly sized to ensure proper operation of the pumps.
2. Pump circuit breakers shall be molded case and rated properly to ensure proper operation of the pumps.
3. Applications with three phase power shall supply phase protection. All applications single or three phase require surge protection.
4. All three phase applications will require a transformer to convert voltage to 120VAC for controls operation.
5. Transformer shall be fused on the primary side and have a controls circuit breaker on the secondary. Transformer shall be sized properly to accommodate all controls functions.
6. Pump controls shall include overload reset button and non-resetable run time meter for each pump.

The controls circuit shall be adequate to meet all the requirements of the system. The controls will provide all pump start signals and alarm condition signals as well as provide monitoring information. The components used shall include the following:

1. 100 Watt heater that is thermostatically controlled with an adjustable selector.
2. Accommodations for intrinsically safe inputs into control panel to determine pump run and alarm conditions. Intrinsically safe control panels shall comply with UL 913 as well as UL 508.
3. Seal fail relays shall be provided for the pumps. Seal Fail units shall be operable with 24VAC. Appropriate fused transformer is required for Seal Fail operation.

Interior of panel enclosure shall be separated into an intrinsically safe side and non-intrinsically safe side.

All wiring shall be labeled at both termination points.

All components shall be labeled with engraved labels, black back with white lettering.

Swing Panel shall be 12 gauge steel construction. Swing Panel shall also maintain UL, CSA, and NEMA ratings when installed.

Controls shall be provided by a reputable control manufacturing company with a minimum of 10 years of custom control fabrication, UL 508 and 913 listed, and minimum 3 year warranty.

The pump control panel stand shall be constructed from 304 stainless steel. The stand shall have a panel mounting height of a minimum of 24". The stand will provide a lockable door that opens toward the center of the wet well; and when in the locked position will secure the outside end of the vent-cable tray removable grate. The stand shall be constructed from 304 stainless steel and installed to permit free movement of the outside air. The stand shall be constructed with legs that extend down past the top of the top slab, to allow (4) 1/2" anchor bolts bolted to precast inserts, to secure the stand to the side of the top slab.

Ground Rod: Ground rods shall be 10 feet in length, 3/4 diameter copper-clad steel in accordance with the requirements of Section 1087 of the Standard Specifications. Ground rods shall be installed in accordance with the requirements of Section 806 of the Standard Specifications.

The control panel foundation as detailed on the plans will be considered incidental to the control panel installation.

INSTALLATION

- All flanged joints shall be made temporarily with gaskets in place using a minimum number of bolts to support the piping. Any misalignment of the assembled piping shall be adjusted or corrected in a manner approved by the Engineer.
- Tightening of flange bolts to "pull up" misaligned flanges will not be permitted and shall not be done; The misaligned flanges shall be machined to fit, or approved spacer pieces and gaskets shall be installed if necessary and directed by the Engineer. The temporary assembly of the flanged piping shall demonstrate that there will be no undue stresses in the piping or at the connections to the equipment. The temporary assembly shall be approved by the Engineer before the joints are tightened. Flanged joints shall then be completed and made watertight and the tension in the flange bolts, when tightened, shall not exceed 15,000 psi at the minor diameter of the bolt threads.
- Restrained Flanged Coupling Adapter diametrically opposite bolts shall be equally tightened on the connection so that the gaskets will be brought up evenly all around the pipe. Final tightening shall be done with torque wrenches set for the torque recommended by the coupling manufacturer.
- Installation of Pipe and Fittings in accordance with the specifications contained herein and in accordance with the manufacturer's recommendations and approved shop drawings.
- Installation of the pumping equipment: In complete accordance with the manufacturer's instructions and recommendations, and the reviewed shop drawings.

- Perform factory tests at the expense of the Contractor. Travel and other expenses to witness the test shall be borne by the Owner. The Owner reserves the right to witness the test.
- Field Tests: Verify specification performance criteria and other tests as recommended by manufacturer. The Contractor to notify the Owner at least 14 days prior to the test.
- Subject each pump to a 30 minute field operational test before acceptance as follows:

Properly install unit under test in the wet well: Confirm:
Discharge connection is firmly jointed.
Proper service voltage is being supplied.
Correct rotation of the impeller.
Cooling by forced or circulated air: Not allowed.

- Capacity Test: On two occasions, fill wet well with liquid to an elevation sufficient to allow each single pump to operate for three minutes, independent of the control regime. Measure time required to pump down known quantity of liquid as evidence of each pump's capacity.

METHOD OF MEASUREMENT

The pump station piping and appurtenances will be measured for payment as a lump sum upon complete installation and satisfactory operation.

BASIS OF PAYMENT

This work will be paid as part of the contract lump sum price for MINER STREET PUMP STATION PUMPS, PUMP CONTROLS, PIPING AND APPURTENANCES COMPLETE which shall be payment in full for the work described herein unless otherwise noted.

SPECIAL PROVISION
WATER MAIN RELOCATION

DESCRIPTION

The alignment of the existing 16" water main in Miner Street is in conflict with the future alignment of the box culvert and must be lowered. The water main relocation requires installation of two vent locations to be used to fill the water main upon completion of the tie-in. Provide a fire hydrant to the east of the east end tie-in point and a 6" pipe with a butterfly valve and check valve on the west end of the tie-in. In addition, four (4) existing pipe lengths east of the east tie-in point are to be restrained as they are currently push-on joint pipe. This will require exposing the joints and installing a retrofit joint restraint system for each joint. All new water main is to be restrained mechanical joint pipe. The water main that is to be located under the new box culvert is to be installed inside a casing pipe and this casing pipe is to be installed by trench method with concrete encasement. Casing spacers and rubber end seals are to be provided for the water main in the casing pipe. The annular space between the water main and the casing pipe is to remain unfilled. All water main placed under pavement, within two feet of back of curb, or under sidewalk shall be installed with trench backfill. Insulation must be provided for any water main until the pipes are greater than 4 feet below the bottom of the approach slab, including the 16" water main, the 6" pipe, butterfly valve and check valve.

Any shut down of this water main must be coordinated with the City of Des Plaines and shall be for no more than four hours. In order to minimize interruption of service to the City this relocation must be accomplished in stages. The first stage of construction consists of installing joint restraint on the length of existing water main to remain in place and constructing a section of the new water main without making the connection to the existing water main and installing a fire hydrant on the existing water main. Once the new section of water main is completed it is to be pressure tested and then disinfected. The second stage consists of making the tie-ins at both ends, re-filling the water main and putting it back into service. The tie-in at the west end is to include installation of the 16"x6" tee with valve. The check valve can be installed after the water main is in service.

All work related to the relocation of the water main is to be paid under the lump sum pay item unless otherwise noted. This work shall consist of furnishing, transporting, storing, and installing ductile iron water main and fittings, valves, buffalo box, concrete encased casing pipe including spacers and end seals, trench backfill and insulation at the locations shown in accordance with the plans, specifications, and as approved by the Engineer.

MATERIALS

Ductile iron pipe: Class 52 per AWWA C150 and AWWAC151 with double thickness cement mortar lining and seal coated per AWWA C104 and bituminous coating outside.

Casing Pipe: 30" diameter Schedule 30 ANSI B36.10 steel pipe, bituminous lined and coated.

Casing spacers: PSI or Cascade or equal

All fittings and joints: mechanical joint for 16" and flange end for 6" per AWWA C110 with double thickness cement mortar lining and seal coated per AWWA C104 and bituminous

coating outside. All pipe is to be restrained.

Joint Restraint: for new pipe Series 1100 MEGALUG by EBAA Iron, Inc.

Restrained joint system for existing push-on joints: Series 1100 HD MEGALUG by EBAA Iron, Inc.

Polyethylene encasement: AWWA C105

Butterfly valve: AWWA C504 for Class 150B service with mechanical joint ends. Valve body: cast iron ASTM A-126 Class B Valve discs: cast iron ASTM A-126 Class B or ASTM A-48 Class 40. Disc shall be furnished with 316 stainless steel seating edge to mate with the rubber seat on the body. Valve seat: Buna-N rubber on the valve body with bonded seats meeting ASTM D-429 Method B. Valve shafts: 18-8 type 304 stainless steel ASTM A-276. Shaft seals: self-adjusting split V packing. Shaft seal shall be of a design allowing replacement without removing the valve shaft. Valve bearings: corrosion resistant and self lubricating sleeve type. Valve actuator: fully grease packed and have stops in the open/close position with a mechanical stop which will withstand an input torque of 450 ft. lbs. against the stop. The traveling nut shall engage alignment grooves in the housing. The actuator shall have a built in packing leak bypass to eliminate possible packing leakage into the actuator housing. The valve interior and exterior surfaces except for seating shall be coated with two coats of asphalt varnish in accordance with TT-C-494A and AWWA C504. All internal and/or external surfaces shall be covered with a polyamide cured epoxy coating applied over a sand blasted "new white metal surface" per SSPC-SP10 to a minimum of 6 mils in compliance with AWWA C550. Pratt Groundhog or equal.

Rubber Flapper Swing Check Valve: Body: Cast Iron ASTM A126 Gr. B with epoxy coating. Flapper: Buna N. Cover bolts: 300 series stainless steel. APCO Series 100 or equal.

Buffalo Box: Two-piece cast iron screw type valve box with drop lid. McWane 6850 series or equal.

Fire Hydrant: Mueller Company Super Centurion 250 Catalog No. A-423.

Auxiliary Valve: Mueller Company 6" Auxiliary Gate Valve Catalog No. A-2360.

Pipe Insulation: DriTherm underground piping insulation. Mike Harris, Harris & Associates, (815) 485-6464 (Agent for DriTherm)

CONSTRUCTION METHODS

Refer to the General Notes and Suggested Sequence of Work on Sheet M-2.

There are two isolation valves, separated by a distance of about 450 feet, available for shut down of the water main. One is an existing 16" diameter water valve located within the intersection of River Road and Miner Street. The second shut-off valve is on the 12" section of pipe immediately east of the east tie-in point. These two valves were installed in about 1989, are reportedly in operating condition, and are to be used to shut off the pipe when required. The City of Des Plaines will operate all in service water system valves.

All new water main is to be polyethylene encased with the exception of the pipe within the casing pipe. All pipe and fittings provided are to be restrained. Five of the existing pipe joints to

the east of the east tie-in point are to be exposed and restrained. If there is polyethylene encasement on existing water main, then the disturbed section of encasement is to be re-wrapped and sealed using polyethylene tape. The water main under the culvert pipe is to be installed in a casing pipe by trench method and then the trench backfilled with concrete as shown. Casing spacers shall be placed at a maximum 10' spacing plus one spacer 1' inset from either end of the casing pipe. Provide end seals at ends of casing pipe.

At east end of the proposed water main relocation a new fire hydrant is to be installed using a pressure tap so that it is ready to be used to bleed air from the system during filling. On the west end, a 16"x6" tee is provided to bleed air.

The insulation specified is a dry type insulation that is poured into place and self compacts. Provide a minimum of 5" of insulation under and on the sides of the 16" water main and a minimum of 6" of insulation over the top of the 16" water main. Provide a minimum of 4" of insulation under and on the sides of the 6" water main and a minimum of 5" of insulation over the top of the 6" water main.

SUGGESTED WORK SEQUENCE

Physically locate the existing water and determine/verify the locations and style of existing joints (i.e. verify that they push joints). This will enable the Contractor to order an adequate number and size of Megalugs as the size of the water main reduces from 16" to 12". Install restraints on existing pipe that is to remain in place. Note that the reducer will also require restraint.

Construct the new section of water main stopping just short of the future connection points to the existing water main. Install; temporary restrained end caps or plugs on both ends of the new unconnected section. These endcaps or plugs should be fitted with 6" gate valves. Fill the bypass section and perform pressure test. Upon successful completion of a pressure test, chlorinate this pipe section per AWWA C651.

Upon successful chlorination of the bypass section flush the section and proceed with tie-in of remaining pieces. All tie-fittings and pipe are to be disinfected using the swab method of AWWA C651. Once the tie-in is complete, the pipe can be filled using the two air bleed locations to bleed air from the system and the water main can be returned to service.

The rubber flap check valve, insulation and 6" pipe extension through the wing wall can be installed at the contractors convenience.

BASIS OF PAYMENT

This work will be paid for at the contract unit price lump sum under the following pay items: " WATER MAIN RELOCATION ". Trench backfill and excavation for water main is to be included in the lump sum cost. General excavation and backfill for construction of the box culvert is to be paid for under separate pay items.

SPECIAL PROVISION
REMOVAL OF EXISTING STRUCTURES

DESCRIPTION

This Work consists of the removal and satisfactory disposal of existing structures and portions thereof, as shown on the Contract Plans and as directed by the Engineer.

Items include, but are not limited to, partial removal of existing wing wall/retaining wall at the south-east corner of the Miner Street Bridge, existing parapet wall along Miner Street and miscellaneous pipes and culvert structures as shown on the plans.

GENERAL REQUIREMENTS

The work must be performed in accordance with Articles 501.02 and 501.03 of the Standard Specifications.

METHOD OF MEASUREMENT

Removal and disposal of existing structures will be measured for payment as Lump Sum.

BASIS OF PAYMENT

This work will be paid for at the contract lump sum price for "REMOVAL OF EXISTING STRUCTURES".

SPECIAL PROVISION
CONCRETE STRUCTURES

DESCRIPTION

The Work consists of furnishing, mixing, transporting and placing concrete for the construction of all cast-in-place concrete structures in accordance with the details shown in the plans, in accordance with this Special Provision and in accordance with Section 503 of the Standard Specifications, except as modified herein.

MATERIALS

Materials must meet the requirements of Section 1000 of the Standard Specifications, except that a high range water-reducing admixture **MUST** be used in the cast-in-place concrete floodwall cap.

METHOD OF MEASUREMENT

Concrete structures will be measured for payment in accordance with Section 503 of the Standard Specifications, except the high range water-reducing admixture will not be measured separately for payment.

BASIS OF PAYMENT

This work will be paid for in accordance with Section 503 of the Standard Specifications, except the high range water-reducing admixture will not be paid for separately, but is included in the contract unit price for "CONCRETE STRUCTURES".

SPECIAL PROVISION
STEEL SHEET PILING

DESCRIPTION

The Work includes furnishing all plant, equipment, labor and materials and performing all operations in connection with the installation and protection of the permanent steel sheet piling wall system, including any walers and/or bolted or structural connections, in accordance with this special provision, as shown on the Plans or as directed by the Engineer.

REFERENCES

The publications listed below form a part of this Specification to the extent referenced. The publications, latest edition, are referred to in the text by basic designation only.

- AISC Manual of Steel Construction, Allowable Stress Design, Ninth Edition, 1989
- ASTM A 6 General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling, 2000a
- ASTM A 36 Carbon Structural Steel, 2000a
- ASTM A 325 High Structural Bolts for Structural Steel Joints, 2000
- ASTM A 328 Steel Sheet Piling, 2000
- ASTM A 490 High-Strength Steel Bolts for Structural Steel Joints, 2000
- ASTM A123 Zinc (Hot-dipped galvanized) Coating on Iron and Steel Products
- ASTM A153 Zinc (Hot-dip) on Iron and Steel Hardware
- ASTM A 563 Carbon and Alloy Steel Nuts, 2000
- ASTM A 572 High-Strength Low-Alloy Columbian-Vanadium Structural Steel, 2000a
- ASTM A 690 High-Strength Low-Alloy Steel H-Piles and Sheet Piling for Use in Marine Environments, 2000a
- ASTM A 722 Uncoated High Strength Steel Bar for Prestressing Concrete, 1998
- ASTM A 992 Steel for Structural Shapes for Use in Building Framing, 2000
- ASTM F 436 Hardened Steel Washers, 2000
- AWS D1.1 Structural Welding Code - Steel, current edition

MATERIALS

Hot rolled steel for sheet piles shall conform to the requirements of AASHTO M-202 (ASTM A 328), Grade 50, or equivalent. All sheet piles must be new. Cold rolled substitute sections will not be permitted for sheet piles. All welding shall conform to the applicable requirements of Article 505.04 (r) of the IDOT Standard Specifications.

Sheet Pile Sections

Sheet piles, including special fabricated sections, shall be as indicated on the Drawings and shall be of a design, such that when in place they will be continuously interlocked throughout their entire length. Sheet piling, including fabricated sections, shall be single piece sections without splices. All piles shall be provided with standard handling holes, located approximately 6 inches below the top of the pile, unless otherwise shown or directed. The types and dimensions of the piles the Contractor proposes to furnish shall be submitted for review, and no order for delivery of such piles will be given by the Contractor prior to receipt of written confirmation that the Engineer has completed this review. Pile sections shall have the minimum properties listed in the following table.

PROPERTIES OF HOT ROLLED SECTIONS

SECTION	GEOMETRICAL DIMENSIONS				PHYSICAL PROPERTIES			
	Width b inches	Height h inches	Flange thickness t inches	Web Thickness s inches	Section modulus in ³ /ft	Moment of Inertia in ⁴	Weight per single lb/ft	Weight per wall lb/ft ²
PZ 22	22.00	9.00	0.375	0.375	18.1	154.7	40.3	22.00
PZ 27	18.00	12.00	0.375	0.375	30.2	276.3	40.5	27.00
PZ 35	22.64	14.9	0.6	0.5	48.5	681.5	66.00	35.00

Each steel pile shall be free from any kinks and shall not possess camber, twist, or warp of a degree which will, in a manner, prevent easy and ready driving of a pile. The interlock of each pile shall be straight throughout its entire length and shall be of such shape and dimensions as will permit free and easy threading of the pile. Special piles for corners or the intersections shall be factory or shop fabricated.

At the Contractor's option, the Contractor may provide an alternate hot-rolled section to steel sheet pile section shown on the Drawings, provided that it meets or exceeds the properties listed above, and is approved by the Engineer. Alternate steel sheet piling shall conform to AASHTO M-202 (ASTM A 328). All other requirements of these Specifications for the steel sheet piling structure shall apply. Contractor shall make changes in the layout, connections, and appurtenances to accommodate the differing dimensions of the substitute sections, and submit the changes to the Engineer for approval. Do not order an alternate hot-rolled section until approved by the Engineer.

Water Stop Material

Hydrophilic waterstop shall be Adeka Ultra Seal, A-50 or P-201 as manufactured by Asahi Donka Kogyo K.K. distributed by Mitsubishi International Corporation or approved equal. The sealing material shall be compatible with steel sheet piling as recommended by the manufacturer. The hot-rolled sheeting seal shall consist of hydrophilic rubber composition placed in a female interlock and shall be placed along the full length of the steel sheet driven.

Appurtenant Metal Materials

1. **Bolts:** All bolts shall conform to ASTM A 325 with threads excluded from the shear plane. All bolts shall be installed at the proper location and set straight and square with connecting members. Hardened washers conforming to ASTM F 436-93, shall be provided under the head and nut. Until final acceptance of the completed Work, the Contractor shall be required to check, straighten and tighten bolts in any part of the structure. Installation shall conform to the requirements of AISC Specification for Structural Joints using ASTM A 325 bolts. The Calibrated Wrench Tightening Method or Turn of the Nut outlined in AISC, 9th Edition, shall be used for confirmation of bolt and nut tightening. Reuse of bolts is not permitted. All bolts and related material shall be galvanized.
2. **Bolt Holes:** All holes for bolts shall be provided at the proper location or position as specified on the Plans. Holes in metal members shall be made by the applicable method for the connection being made, either drilling or torching. After drilling or torching, holes in metal which are too small or out of shape shall be reamed to the required size. Unless otherwise indicated or specified, all holes for items that are to be inserted through metal members shall not be more than 1/4 inch larger than the diameter of the item being installed.
3. **Structural Shapes and Miscellaneous Plates:** Structural shapes and miscellaneous plates as shown on the Plans, shall conform to Grade 36, ASTM A 36. These shapes and plates shall be galvanized.

Walers

Walers, if required, shall be of the sections shown on the Plans and shall conform to Grade 36, ASTM A 36, unless otherwise shown on the Plans. Walers shall be galvanized.

General Requirements

Floodwall and Bike Trail Support Wall Construction: The Contractor is responsible for maintaining stability of sheet pile wall during construction. The "suggested floodwall construction sequence" provided on the Plans are for the Contractor's reference only. The Contractor is responsible for developing safe construction sequence and method and submitting the same to the Engineer for review and approval. Sequence of backfilling and compaction behind sheeting is a critical part of this Work, and the Contractor shall address the sequence of backfilling and compaction in the submittal. Place backfill equally on both sides of sheet piling where backfill is shown on both sides. If temporary bracings are required during construction, the Contractor shall design the same, provide shop drawings and design calculations in the submittal and furnish and install them as required.

Submittals: The Contractor's Quality Control organization shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1. **Data:**

Manufacturer's literature, available from suppliers, which demonstrates compliance with applicable specifications for the materials listed below.

Complete descriptions of driving equipment including hammers, extractors, protection caps and other installation appurtenances shall be submitted for approval prior to commencement of Work.

2. **Reports:**

Test reports or certificates of compliance which show that the materials to be provided are in compliance with the applicable specifications. Testing of sheet piling and walers for mechanical properties shall be performed after the completion of all rolling and forming operations.

Material test certificates and test reports shall be submitted for each shipment of steel sheet piling, walers, plates and other structural shapes and identified with specific lots prior to installing piling. Identification data shall include piling type, heat analysis number, chemical composition, mechanical properties and the steel manufacturer's name.

Records of the sheet piling driving operations shall be submitted after driving is completed. These records shall provide a system of identification which shows the disposition of approved piling in the Work, driving equipment performance data, piling penetration rate data, piling dimensions and top and bottom elevations of installed piling.

Design calculations for the use of alternative pile sections shall be stamped by a Structural Engineer registered in the State of Illinois and submitted prior to installing piling.

Test calibration data for Skidmore or equal calibration testing device.

Written work plan, design calculations and drawings showing temporary support of the sheet pile wall during construction.

3. **Shop Drawings:** Shop Drawings for steel sheet piling and walers, including fabricated sections, shall show complete dimensions and details, layout, calculations and connection details of pile and waler sections along straight portions, curves, corners and bends, driving sequence and location of installed piling. Shop drawings shall include details and dimensions of templates and other temporary guide structures for installing sheet piling. Shop drawings shall provide details of the method of handling sheet piling to prevent permanent deflection, distortion or damage to piling interlocks.

Material fabricated or delivered to the site prior to the approval of shop drawings will be subjected to rejection.

4. **Winter Closure Design:** The winter closure design as described under this Specification shall be submitted to the Engineer for approval a minimum of 30 days prior to installation of the winter closure.

5. **Noise, Vibration, Settlement Monitoring and Dust Control Measures:** Prior to start of Construction, submit means of monitoring noise, vibration and settlement to prevent damage to existing structures and utilities in the vicinity of the pile driving and means of controlling dust.

6. **Existing Condition Survey:** Prior to start of construction, survey existing conditions and structures in the vicinity by surveying, videotaping and photographing existing structures and utilities.
7. **Field Survey:** Prior to start of Construction, perform all field survey work or use other means as necessary to determine type, size, depth and locations of existing buried and non-buried structures, foundations and utilities in the vicinity that require protection during pile driving.

Delivery and Storage: Materials delivered to the site shall be new and undamaged and shall be accompanied by certified test reports. The manufacturer's logo and mill identification mark shall be provided on the sheet piling as required by the referenced specifications. Sheet piling shall be stored and handled in the manner recommended by the manufacturer to prevent permanent deflection, distortion or damage. Storage of piling shall facilitate required inspection activities.

Field Measurements: The Contractor shall obtain all field measurements required for proper and adequate fabrication and installation of the Work. Exact measurements are the Contractor's responsibility.

Preparation: The Contractor shall relocate/remove all pilings, stone, concrete, rubbles, trees, submerged timbers, and other materials interfering with the proper alignment and performance of the Work. See related sections of the Standard Specifications for further direction on site preparation.

Piling Driving Equipment - Hammer: All sheet piling shall be driven with steam, air, or diesel hammer conforming to all environmental requirements. The driving energy of the hammers shall be as recommended by the manufacturer for the piling weights and subsurface materials to be encountered and, to minimize noise and vibration.

Placing And Driving:

1. **Driving Line:** The driving line shall be cleared of any debris, trees, stone or pieces of existing concrete prior to the placing of the sheet piling.
2. **Placing:** Any excavation required within the area where piling is to be installed shall be completed prior to placing sheet piling. Piling shall be carefully located as shown on the drawings or directed by the Engineer. Piling shall be placed plumb with out-of-plumbness not exceeding 1/8 inch per foot of length and true to line. Permanent walers, templates, or temporary guide structures shall be provided to ensure that the piling is placed and driven to the correct alignment. At least two templates in the vertical direction shall be used in placing each piling, and the maximum spacing of templates shall not exceed 20 feet. Sheet pile shall be placed and driven with the interlock ball leading in the direction of driving. Properly placed and driven sheet piling shall be interlocked throughout its entire length with the adjacent piling to form a continuous diaphragm throughout the length or run of piling wall.
3. **Driving:** Piling shall be driven with the proper type and size hammer and by approved methods so as not to subject the piling and adjacent properties to damage and to ensure proper sheet pile interlock throughout its length. Piles shall be driven to the depths shown on the Plans, or until refusal is encountered. Driving resistance in excess of 10

blows per 1 inch per single pile unit shall be considered practical refusal for impact hammers. If unable to reach the minimum tip elevation with the impact hammer, the adequacy of the sheet piling design will require re-evaluation by the Engineer. The Contractor is restricted to impact hammers having a rated capacity less than 24,450 foot-pounds of energy. For vibratory hammers, a pile penetration rate less than 6 inches per minute for a period of 5 minutes is to be considered as practical refusal. If a pile fails to reach the design tip elevation using a vibratory hammer, the Contractor shall attempt to drive a single sheet pile unit using an appropriate impact hammer as discussed above. Driving hammers shall be maintained in proper alignment during driving operations by use of leads or guides attached to the hammer. A protecting cap shall be employed in driving when using impact hammers to prevent damage to the top of piling. Piling damaged during driving or driven out of interlock shall be removed and replaced at the Contractor's expense. Adequate precautions shall be taken to insure that piling is driven plumb. If at any time the forward or leading edge of the sheet piling wall is found to be out-of-plumb in the plane of the wall, the piling being driven shall be driven to the required depth and tapered piling shall be provided and driven to interlock with the out-of-plumb leading edge or other approved corrective measures shall be taken to insure the plumbness of succeeding piling. The maximum permissible taper for any tapered piling is 1/8 inches per foot of length. The horizontal alignment of the steel sheet pile wall shall be within 1 inch of required location after completion of driving and after assembly and tightening of wales, where shown on the plans. Piling in each run or continuous length wall shall be driven alternately in increments of depth to the required depth or elevation. No piling shall be driven to a lower elevation than those behind it in the same run except when those behind it cannot be driven deeper. If the sheet piling next to the one being driven tends to follow below final elevation it may be pinned to the next adjacent piling. If obstructions restrict driving a piling to the specified penetration, the obstructions shall be removed or penetrated with chisel beam. If the Contractor demonstrates that removal or penetration is impractical, the Contractor shall make changes in the design alignment of the piling structure as directed by the Engineer to insure the adequacy and stability of the structure. Piling shall be driven to depths shown on the drawings and shall extend up to the elevation shown on the drawings for the top of pilings. A tolerance of 1 inch above the required top elevations will be permitted. Piling shall not be driven within 100 feet of cast-in-place concrete or grouted earth anchors less than seven days old.

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

All sheet piles shall be driven between the period of 8:00 a.m. and 8:00 p.m., unless otherwise restricted by City of Des Plaines. The Contractor shall coordinate all his work with the adjacent property owners.

Cutting Off and Splicing: Piling driven to refusal or to the point where additional penetration cannot be attained and is extending above the required top elevation, shall be cut off to the required elevation, or as directed by the Engineer. Piling driven below the required top

elevation and piling damaged by driving and cut off to permit further driving shall be extended as required to reach the top elevation by splicing when directed by the Engineer at no additional cost to the owner. If directed by the Engineer, piling shall be spliced as required to drive them to depths greater than shown on the drawings and extend them up to the required top elevation. Splices shall be made by an approved butt weld, making full penetration of the pile section, or as otherwise directed or approved by the Engineer. Piling adjoining spliced pilings shall be full length unless otherwise approved. Piling ends to be spliced shall be squared before splicing to eliminate dips or camber. Concentric alignment of the spliced piling interlocks shall be provided so that there are no discontinuities, dips or camber at the abutting interlocks. Spliced piling shall be free sliding and able to obtain the maximum swing with contiguous piling. The tops of excessively battered piling shall be trimmed when directed at no cost to the Engineer. Piling cutoffs will become the property of the Contractor and shall be removed from the site. The Contractor shall cut necessary holes in piling for bolts, rods, drains, or utilities as shown on the drawings or as directed. All cutting shall be done in a neat and workmanlike manner. A straight edge shall be used in cuts made by burning to avoid abrupt nicks. Bolt holes in steel piling shall be drilled or may be burned and reamed by approved methods that will not damage the surrounding metal. Driven sheeting shall have no handling holes left in place after piles have been driven to the minimum pile tip elevation.

Inspection of Driven Piling: The Contractor shall inspect the interlocked joints of driven sheet piling extending above ground. Piling found to be out of interlock shall be removed and replaced at the Contractor's expense.

Pulling and Redriving: The Contractor shall pull selected piling after driving to determine the condition of the underground portions of pilings, when directed by the Engineer. The Engineer will approve the Contractor's method for pulling piling. Any piling so pulled and found to be damaged to the extent that its usefulness in the structure is impaired shall be removed and replaced at the Contractor's expense. Piling pulled and found to be in satisfactory condition shall be redriven, when directed by the Engineer.

Removal: The removal of pilings consists of pulling, sorting, cleaning, inventorying and storing previously installed piling as shown on the drawings and directed by the Engineer.

1. **Pulling:** The method of pulling piling will be approved by the Engineer. Pulling holes shall be provided as required. Extractors shall be of suitable type and size. Care shall be exercised during pulling to avoid damaging piling interlocks and adjacent construction. If the Engineer determines that adjacent permanent construction has been damaged during pulling, the Contractor shall repair this construction at no cost to the Engineer. Piling shall be pulled one sheet at a time. Piling fused together shall be separated prior to pulling unless the Contractor demonstrates to the satisfaction of the Engineer that the piling cannot be separated. The Contractor at his/her own expense shall remove piling damaged beyond structural use due to proper care not being exercised during pulling.

2. **Sorting, Cleaning, Inventorying and Storing:**

Pulled piling shall be sorted, cleaned, inventoried and stored, by type, into groups as:

- a. Piling usable without reconditioning;
- b. Piling requiring reconditioning; and
- c. Piling damaged beyond structural use.

Winter Closure: At the time of cessation of Work for an extended period, be it winter conditions, or other reasons, details described herein, as winter closure will apply. Rubble removal or site preparation shall not be done beyond the limits of the anticipated winter closure until Work resumes after the shutdown. The new structure shall be complete, including any concrete placement and other permanent work shown on the Plans, up to the winter closure. The Contractor shall provide a winter closure design for approval by the Engineer. The winter closure shall be designed, as a minimum, to contain the earth fill within the new portions of the structure, protect the new structure from storm, wind, wave and other damage, and provide a method for preserving the continuity of the structure after Work resumes.

Temporary Construction: The Contractor is responsible for temporary bracing and support of the structure during construction and shall protect all exposed partially complete Work against damage. The Contractor shall take precautions to assure that the structure is adequately braced to avoid damage from wave action during construction. Any structural component damaged during construction shall be replaced by the Contractor at no cost to the Engineer. The steel sheet pile structure including, walers and connections, where shown on the plans, are not designed to resist loads prior to installing all permanent components. The Contractor's means and methods of providing temporary protection and support shall be as included in the Work Plan.

The Contractor is fully responsible to maintain sheet pile alignment and stability during construction.

Sealing of Interlocks:

All sheet piles shall be sealed for full length to attain a tight seal and prevent leakage of water from the river side.

The alternate interlock joints may be welded and other alternate interlock joints shall be sealed with hydrophilic waterstop material. The Contractor shall submit his method of welding and sealing procedure for approval. Loose materials and foreign matter shall be removed which might impair adhesion of sealant. The interlock joints shall be cleaned in accordance with manufacturer's instructions. The interlock joints shall be protected before and after sealant application from damage or disfiguration. Sealant shall be applied in accordance with sealant manufacturer's requirements of preparation of surfaces and material installation instructions. A sealant manufacturer's representative shall be present during sealing and installation of sheet piling at the site whenever deemed necessary by the Engineer.

Protection of Existing Structures:

The Contractor is responsible for providing and maintaining safety of existing structures and utilities for the entire duration of construction. These structures and utilities are those that are within the work limits and 300 feet outside the work limits, or as determined by the Engineer. If any temporary bracing or shoring is required for this purpose, the sole responsibility for the design, method of installation and adequacy of the system shall be and shall remain that of the Contractor.

The Contractor shall survey existing conditions and structures by videotaping, photographing, or other means both within and outside the work limits. Sufficient numbers of 4-inch x 6-inch color photographs of each existing structure shall be provided prior to construction. The contractor

shall also walk thru with the Engineer and Owner of the property. The Contractor shall document any existing damages by taking detailed photographs of the area, possibly using a scale to approximately measure the size and extent of the damage. The pre-construction survey shall be documented in a written report and a copy shall be submitted to the property owner and Engineer. No sheet pile driving shall be permitted until all required surveys have been completed.

The Contractor shall submit proposed noise control, vibration control and dust control measures and acceptable levels for the same for the Engineer's review and approval. The Contractor shall employ a testing agency experienced in monitoring settlement, vibration and noise levels. The Contractor shall utilize construction means and methods that will not cause existing structure or utility damage due to vibration or settlement and ensure that vibration and settlement are within acceptable limits. The Contractor shall provide monitoring for existing structures and utilities both within and outside the property limits at no additional cost to the Engineer. Lateral and vertical readings shall also be taken on existing adjacent structures both within and outside the property limits.

The Contractor shall maintain a continuous check and log of the elevation and location of all sheeting components and structures and, upon any indication of settlement, the Contractor shall provide corrective measures as required without additional cost. If, at any time, the safety of any adjacent structures, streets, or utilities appears to be endangered; the Contractor shall cease operations, notify the Engineer, take all proper means to support such structures, etc., and do not resume operations until corrective measures have been completed. The Contractor shall provide and place additional bracing and shoring necessary to safeguard and prevent any such movement and settlement, or as so ordered by the Engineer. The Contractor shall design such system and submit to the Engineer for approval. If the Contractor fails to comply promptly with such order, such bracing and shoring may be placed by the Engineer at the Contractor's expense. Any such action, however, shall not relieve the Contractor of the responsibility for the adequacy of the temporary earth retention system.

Additional protection of adjacent bridge and building structures:

A complete photographic or video survey of these structures shall be performed prior to the commencement of driving any sheeting. At this time any significant existing cracks shall be identified and crack displacement sensors installed. Also at this time a seismograph should be installed on the structures, at a fixed location near the Work area. The seismograph will be used to measure the peak ground motions (or peak particle velocities; "ppv"), throughout the piling installation. Prior to sheet pile driving, the Contractor shall submit his plan for monitoring his operations to assure compliance with this special provision and industry standards. Trained personnel shall be provided to operate the seismograph equipment and interpret the recordings.

All sheeting installed within 100 feet of these structures, except from station 2+22 to station 26+50 where hydraulic press-in equipment is required, shall be driven with high-velocity vibrators. This equipment, available in the Chicago area, produces lower ppv's than conventional vibratory pile drivers. Peak particle velocities measured shall not exceed ¼ inch per second. The U.S. Bureau of Mines has established this number as the maximum ppv allowed.

During the sheet piling installation, if either the maximum ppv of 1/4 inch per second is exceeded, or the crack displacement sensors indicate excessive movements/displacements, installation of the sheeting by the vibratory driving method shall be discontinued. Installation of the sheeting shall then be performed using hydraulic drivers ("Still-worker" or approved equivalent type of equipment), which should produce little, if any, measurable ground motions.

Method of Installing Sheet Piling Using Hydraulic Hammer From Station 22+00 to Station 26+50:

Steel Sheet piling from station 22+00 to station 26+50 shall be installed using hydraulic press-in equipment, as specified herein. Vibratory type hammers, impact type hammers or other vibratory and non-vibratory methods shall not be utilized at above mentioned locations to minimize vibrations to the adjacent properties during sheet pile installation. The hydraulic press-in equipment shall not produce vibration above 0.1 inch per second at the ground surface, at a distance of 15 feet from the equipment, while in operation. To verify that the vibrations produced by hydraulic press-in equipment are within the acceptable limits, it is suggested that the contractor install a portion of sheet pile wall using hydraulic press-in equipment at a location other than the sensitive locations mentioned above, obtain actual vibrations results and make sure that they are under the allowable limits.

Contractor at his/her option may consider using hydraulic press-in equipment for the entire length of the steel sheet pile installation. Regardless of type of sheet pile installation equipment used, all the requirements under "Protection of Existing Structures" and "Additional Protection of Adjacent Bridge and Building Structures" mentioned in STEEL SHEET PILING specification must be satisfied.

Separate payment will not be made for using hydraulic press-in equipment whether used at the locations mentioned above or used for the entire length of the steel sheet pile installation; the cost is considered included in the pay item for STEEL SHEET PILING.

Steel sheet pile installation using hydraulically press-in method shall be from the following equipment, or an approved equal equipment:

1. Silent Piler
Manufactured / distributed by:
Giken America Corporation
5802 Hoffner Avenue, Suite 707
Orlando, Florida 32822
(407) 380-3232

2. Mobil Ram Pile Pusher
Manufactured / distributed by:
ABI, Inc.
672 East H Street
Benicia, CA 94510
(707) 746-7820

3. The Still Worker
Manufactured / distributed by:

Ken-Jet
1275 Cardiff Boulevard
Mississauga, Ontario
Canada L5S 1R1
(407) 380-3232

Utility Penetration:

The Work shall be performed as detailed on the Contract Plans and in accordance with sections 105.07 "Cooperation with Utilities" and 107.31 "Contractor's Responsibility for Utility Property and Services" of the Standard Specifications. The Contractor shall coordinate with the appropriate utility agency regarding the impact of the Work before proceeding with the Work. Additionally, the following items shall be adhered to:

The Contractor shall be responsible for stability, strength and safety of the sheet piling system, temporary and permanent. The Contractor shall adequately support any adjacent structures, roadways or utilities during construction. The Contractor shall provide and place additional bracing and shoring necessary to safeguard and prevent any movement and settlement of the existing structures.

Existing utilities are noted on the Drawings based upon the available information. The Contractor shall field verify each utility interference location before proceeding with the work. Opening in sheet pile to allow for utility penetration, shall be done in a neat and workmanlike manner. The Contractor shall take all precautions described earlier in these Specifications, in order to prevent the adjacent material from any damage. Any damage caused by this Work to the sealed interlocks shall be repaired by welding. Details for penetrating through a sheet pile wall is shown on the Contract Plans. The Contractor may submit alternate detail for the utility penetration to the Engineer for review and approval.

Quality Control:

The Contractor shall establish and maintain quality control for Work under this section to assure compliance with Contract requirements and maintain records of his/her quality control for all construction operations including, but not limited to, the following:

- a. Materials;
- b. Sheet piling driving operations, including type and rating of hammer; and
- c. Driving depth or depth of refusal.

A copy of the records of inspections, as well as the records of corrective actions taken, shall be furnished to the Engineer as directed by the Engineer in accordance with the related specification section of this document.

METHOD OF MEASUREMENT

Steel sheet pile will be measured for payment in place by using the area computed in square feet of 2-dimensional projection of the wall. Projected wall area will be computed by multiplying the horizontal length of wall measured along the top of the pile centerline multiplied by the length of piles, measured from the tip elevation to the cut-off elevation. For installed pilings

directed to be cut off before reaching the penetration depth shown on drawings, the portion cut off will be measured for payment as the difference between the total length of piling shown on the Plans for that location and the length of piling installed below the point of cut-off.

BASIS OF PAYMENT

Payment will cover all costs of furnishing, handling, storing and installing the steel sheet piling and any wales, if required, including pre-construction survey, vibration and settlement monitoring, clearing the drive line, placing, cutoffs, driving, cutting and patching holes, sealing interlock joints, connections and other appurtenant materials and work incident thereto. Payment for steel sheet piling will be made at the Contract Unit Price per square feet for STEEL SHEET PILING. Payment for design and installation of the winter closure will not be paid separately and is considered included in this pay item.

Removal and replacement of existing soil, roadway pavement, curb and gutter, barrier, stone, piles or other materials, backfilling and providing sodding in the drive line will not be measured separately for payment, and costs therefore is considered included in this pay item. Excavation, dewatering as necessary, backfilling, clearing, demolition or other activities required for proper installation of the sheeting, or appurtenances required to properly perform the Work but not covered for payment elsewhere in these Specifications is considered included in this pay item. All piling shall include fabricated sections driven between the required top and bottom elevations of pilings plus any additions thereto resulting from changes in design or alignment as provided herein. No payment will be made for portion cutoff to remove handling holes or damaged piling.

Protection of existing structures, proper removal and storage of existing features to the satisfaction of the Engineer, pavement, rock fill, debris and other materials will not be measured for separate payment, the costs of which is considered included in this pay item.

Sealing of interlocks will not be measured for payment. The cost of sealing of interlocks is included in this pay item.

Any cost associated with utility penetration work will not be measured separately for payment, and costs therefore are considered included in this pay item.

Separate payment will not be made for preparing work area for contractor's pile driving equipment or for working in the restricted right-of-way.

If splicing of sheet pile is required, the cost of each splice made is considered included in the cost of the square feet area of the pile extension. An additional sum will be paid for each square feet of piling extension at the Contract Unit Price per square feet of STEEL SHEET PILING. Payment will be made for each piling spliced, at the direction of the Engineer, to drive the piling to a depth greater than shown on the drawings and extend the piling up to the required top elevation.

Contractor-furnished pilings, which have been installed and are pulled at the direction of the Engineer and found to be in good condition, will be paid for at the applicable Contract Unit Price for furnishing and installing the pilings in their initial position. No compensation will be paid for cost of pulling, and cost of pulling therefore is considered included in this pay item. When such pulled pilings are redriven, an additional amount equal to 50 percent of the applicable Contract Unit Price for furnishing and driving the pilings will be paid for redriving pilings. This additional price constitutes payment for redriving only. When pilings are pulled and found to be damaged

no payment will be made for the initial furnishing and driving or for the pulling of such pilings. Pilings replacing damaged pilings to the satisfaction of the Engineer will be paid for at the applicable Contract Unit Prices.

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

SPECIAL PROVISION
TEMPORARY SHEET PILING

DESCRIPTION

This work consists of furnishing, driving, adjusting for stage construction when required and subsequent removal of the sheet piling according to the dimensions and details shown on the plans and according to the applicable portions of Section 512 of the Standard Specifications.

This work shall also include furnishing, installing and subsequent removal of all miscellaneous steel shapes, plates and connecting hardware when required to attach the sheeting to an existing substructure unit and/or to facilitate stage construction.

MATERIALS

The sheet piling shall be made of steel and may be new or used material, at the option of the Contractor. The sheet piling shall have a minimum section modulus as shown on the plans or in the approved Contractor's alternate design. The sheeting shall have a minimum yield strength of 265 MPa (38.5 ksi) unless otherwise specified. The sheeting, used by the Contractor, shall be identifiable and in good condition free of bends and other structural defects. The Contractor shall furnish a copy of the published sheet pile section properties to the Engineer for verification purposes. The Engineer's approval will be required prior to driving any sheeting. All driven sheeting not approved by the Engineer shall be removed at the Contractor's expense. Sheet piling shall be made watertight.

GENERAL REQUIREMENTS

The Plans only show minimum section modulus required and estimated area of the sheet piling. The contractor must design all temporary sheet piling shown on the plans. The calculations must be prepared and sealed by an Illinois Licensed Structural Engineer and submitted to the Engineer for review and approval.

The Contractor may propose other means of supporting the sides of the excavation provided they are done so at no extra cost to the Department. If the Contractor elects to vary from the design requirements shown on the plans, the revised design calculations and details shall be submitted to the Engineer for approval. The calculations shall be prepared and sealed by an Illinois Licensed Structural Engineer. This approval will not relieve the Contractor of responsibility for the safety of the excavation. Approval shall be contingent upon acceptance by all involved utilities and/or railroads.

The Contractor shall verify locations of all underground utilities and structures before driving any sheet piling. Any disturbance or damage to existing structures, utilities or other property, caused by the Contractor's operation, shall be repaired by the Contractor in a manner satisfactory to the Engineer at no additional cost to the Department. The Contractor shall be responsible for determining the appropriate equipment necessary to drive the sheeting to the tip elevation(s) specified on the plans or according to the Contractor's approved design. The sheet piling shall be driven, as a minimum, to the tip elevation(s) specified, prior to commencing any related excavation. If unable to reach the minimum tip elevation, the adequacy of the sheet piling design will require re-evaluation by the Department prior to allowing excavation adjacent

to the sheet piling in question. The Contractor shall not excavate below the maximum excavation line shown on the plans without the prior permission of the Engineer. The sheet piling shall remain in place until the Engineer determines it is no longer required.

The sheet piling shall be removed and disposed of by the Contractor when directed by the Engineer. When allowed, the Contractor may elect to cut off a portion of the sheet piling leaving the remainder in place. The remaining sheet piling shall be a minimum of 300 mm (12 in.) below the finished grade or as directed by the Engineer. Removed sheet piling shall become the property of the Contractor.

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

Protection of Existing Structures:

The Contractor is responsible for providing and maintaining safety of existing structures and utilities for the entire duration of construction. These structures and utilities are those that are within the work limits and 300 feet outside the work limits, or as determined by the Engineer. If any temporary bracing or shoring is required for this purpose, the sole responsibility for the design, method of installation and adequacy of the system must be and must remain that of the Contractor.

The Contractor must survey existing conditions and structures by videotaping, photographing, or other means both within and outside the work limits. Sufficient numbers of 4-inch x 6-inch color photographs of each existing structure must be provided prior to construction. The contractor shall also walk thru with the Engineer and Owner of the property. The Contractor must document any existing damages by taking detailed photographs of the area, possibly using a scale to approximately measure the size and extent of the damage. The pre-construction survey shall be documented in a written report and a copy shall be submitted to the property owner and Engineer. No sheet pile driving shall be permitted until all required surveys have been completed.

The Contractor must submit proposed noise control, vibration control and dust control measures and acceptable levels for the same for the Engineer's review and approval. The Contractor must employ a testing agency experienced in monitoring settlement, vibration and noise levels. The Contractor must utilize construction means and methods that will not cause existing structure or utility damage due to vibration or settlement and ensure that vibration and settlement are within acceptable limits. The Contractor must provide monitoring for existing structures and utilities both within and outside the property limits at no additional cost to the Engineer. Lateral and vertical readings must also be taken on existing adjacent structures both within and outside the property limits.

The Contractor must maintain a continuous check and log of the elevation and location of all sheeting components and structures and, upon any indication of settlement, the Contractor must provide corrective measures as required without additional cost. If, at any time, the safety of any adjacent structures, streets, or utilities appears to be endangered; the Contractor must

cease operations, notify the Engineer, take all proper means to support such structures, etc., and do not resume operations until corrective measures have been completed. The Contractor must provide and place additional bracing and shoring necessary to safeguard and prevent any such movement and settlement, or as so ordered by the Engineer. The Contractor must design such system and submit to the Engineer for approval. If the Contractor fails to comply promptly with such order, such bracing and shoring may be placed by the Engineer at the Contractor's expense. Any such action, however, must not relieve the Contractor of the responsibility for the adequacy of the temporary earth retention system.

Additional protection of adjacent bridge and building structures:

A complete photographic or video survey of these structures must be performed prior to the commencement of driving any sheeting. At this time any significant existing cracks must be identified and crack displacement sensors installed. Also at this time a seismograph should be installed on the structures, at a fixed location near the Work area. The seismograph will be used to measure the peak ground motions (or peak particle velocities; "ppv"), throughout the piling installation. Prior to sheet pile driving, the Contractor shall submit his plan for monitoring his operations to assure compliance with this special provision and industry standards. Trained personnel shall be provided to operate the seismograph equipment and interpret the recordings.

All sheeting installed within 100 feet of these structures must be driven with high-velocity vibrators. This equipment, available in the Chicago area, produces lower ppv's than conventional vibratory pile drivers. Peak particle velocities measured must not exceed ¼ inch per second. The U.S. Bureau of Mines has established this number as the maximum ppv allowed.

During the sheet piling installation, if either the maximum ppv of 1/4 inch per second is exceeded, or the crack displacement sensors indicate excessive movements/displacements, installation of the sheeting by the vibratory driving method must be discontinued. Installation of the sheeting must then be performed using hydraulic drivers ("Still-worker" or approved equivalent type of equipment), which should produce little, if any, measurable ground motions.

METHOD OF MEASUREMENT

The temporary sheet piling will be measured for payment in place in square feet. Any temporary sheet piling cut off, left in place, or driven to dimensions other than those shown on the contract plans without the written permission of the Engineer, shall not be measured for payment but shall be done at the contractor's expense.

If the Contractor is unable to drive the sheeting to the specified tip elevation(s) and can demonstrate that any further effort to drive it would only result in damaging the sheeting, then the Contractor shall be paid based on the plan quantity of temporary sheeting involved. However, no additional payment will be made for any walers, bracing, or other supplement to the temporary sheet piling, which may be required as a result of the re-evaluation in order to insure the original design intent was met.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per square foot for TEMPORARY SHEET PILING.

Payment for any excavation performed in conjunction with this work will not be included in this item but shall be paid for as specified elsewhere in this contract.

Protection of existing structures, proper removal and storage of existing features to the satisfaction of the Engineer, pavement, rock fill, debris and other material will not be measured for separate payment, the cost of which is considered included in this pay item.

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

SPECIAL PROVISION
WATERPROOFING MEMBRANE SYSTEM

DESCRIPTION

The Work consists of furnishing, transporting and placing all materials required to construct a membrane waterproofing system on the structures as shown on the contract plans and as directed by the Engineer.

MATERIALS

Materials must meet the requirements of Article 580.02 of the Standard Specifications.

GENERAL REQUIREMENTS

Perform Work in accordance with the requirements of Section 580 "MEMBRANE WATERPROOFING FOR RAILWAY STRUCTURES" of the standard specifications.

METHOD OF MEASUREMENT

The membrane waterproofing will be measured for payment in place, and the area computed in square feet. The area for measurement will include only the surface of the membrane waterproofing covered with a protective cover.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per square foot for WATERPROOFING MEMBRANE SYSTEM.

SPECIAL PROVISION
HANDRAIL, 54" AND HANDRAIL, 24"

DESCRIPTION

This Work consists of furnishing and construction of handrails and concrete foundations in accordance with this special Provision, Section 509 of the Standard Specifications and in close conformity with the lines, grades, design, and dimensions shown on the plans.

MATERIALS

Materials shall meet the requirements of Article 509.02 of the standard specifications, except as modified herein and on the plans.

Provide metals free from surface blemishes where exposed to view in finished unit. Exposed-to-view surfaces exhibiting pitting, seam marks, roller marks, stains, discolorations, or other imperfections or finished units are not acceptable.

Miscellaneous Materials

- A. Welding Electrodes and Filler Metal: Type and alloy of filler metal and electrodes as recommended by producer of metal to be welded, complying with applicable AWS specifications, and as required for color match, strength, and compatibility in fabricated items.
- B. Fasteners: Use fasteners of same basic metal as fastened metal, unless otherwise indicated. Do not use metals that are corrosive or incompatible with materials joined.
 - 1. Provide concealed fasteners for interconnecting handrail metal components and for attaching them to other work, unless otherwise indicated.
 - 2. Provide Phillips flat-head machine screws for exposed fasteners, unless otherwise indicated.
- C. Post installed Anchors: Anchors of type indicated below, fabricated from corrosion-resistant materials with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry and equal to four times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.
 - 1. Expansion anchors.

System Description and Performance Requirements.

Provide all components, including iron and steel shapes, plates, bars, and handrail systems, anchors, and fasteners, as required to provide complete assemblies and systems as specified and as shown on the plans. Comply with the following:

1. Provide systems and assemblies that perform under heavy-duty use.
2. Provide components that are consistent with the intended use of the project.

GENERAL REQUIREMENTS

Perform work in accordance with this special provision and Section 509 of the Standard Specification, except as modified herein.

SUBMITTALS

- A. **Product Data:** For each product used in handrail, including finishing materials and methods.
- B. **Shop Drawings:** Show fabrication and installation of handrail. Include plans, elevations, component details, and attachments to other Work. Indicate materials and profiles of each metal member, fittings, joinery, finishes, fasteners, anchorages, and accessory items.
 1. Include setting drawings, templates, and directions for installing anchor bolts and other anchorages, hardware and accessories, and other components.
 2. Design and submit for review and approval railing components, including posts and connections, per the Bicycle Railing section of the latest AASHTO Specifications for Highway Bridges. Include structural analysis that has been signed and sealed by a structural engineer responsible for their preparation who is licensed to practice in the State of Illinois.
- C. **Samples for Verification:** For each profile and pattern of fabricated metal and for each type of metal finish required, prepared on metal of same thickness and alloy indicated for the Work. If finishes involve normal color and texture variations, include sample sets, consisting of two or more units, showing the full range of variations expected.
 1. Include 6-inch- (150-mm-) long samples of linear shapes.
 2. Include 6-inch- (150-mm-) square samples of plates.

Quality Assurance

- A. **Fabricator / Manufacturer Qualifications:** A manufacturer experienced in producing handrails similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- B. **Welding Standards:** Qualify procedures and personnel according to the following:

AWS D1.1, "Structural Welding Code--Steel."

Delivery, Storage, and Handling.

Store material inside a well-ventilated area, away from uncured concrete and masonry, and

protected from weather, moisture, soiling, abrasion, extreme temperatures, and humidity.

Project Conditions

Field Measurements: Where handrail is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

Coordination

Coordinate installation of anchorages for handrail posts. Furnish Setting Drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

Fabrication, General

- A. Form handrail to required shapes and sizes, with true curves, lines, and angles. Provide components in sizes and profiles indicated, but not less than that needed to comply with requirements indicated for structural performance and quality assurance.
- B. Provide necessary lugs, and brackets to assemble units and to attach to other work. Drill and tap for required fasteners, unless otherwise indicated. Use concealed fasteners where possible.
- C. Comply with AWS for recommended practices in shop welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed joints of all flux, and dress all exposed and contact surfaces.
- D. Mill joints to a tight, hairline fit. Cope or miter corner joints. Form joints exposed to weather to exclude water penetration.
- E. Finish exposed surfaces to smooth, sharp, well-defined lines.
- F. Assemble items in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces. Locate field splices and/or expansion joints as required for fabrication and installation and, to allow for expansion and contraction of handrail.

Fabricating and Handrails

- A. Fabricate Metal Handrails in shapes and configurations indicated and as required to provide complete assemblies and systems.

Fabricate, Handrails as required to accommodate contours of grades as indicated on Drawings.

- B. **Welded Connections:** Fabricate handrails and railings for connecting members by welding. Cope components at perpendicular and skew connections to provide close fit, or use fittings designed for this purpose. Weld connections continuously to comply with the following:
1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 2. Obtain fusion without undercut or overlap.
 3. Remove flux immediately.
 4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.
 5. Provide welded connections for ferrous handrails.
- C. Close exposed ends of handrail and railing members as indicated on Drawings.
- D. **Brackets, Flanges, Fittings, and Anchors:** Provide brackets, flanges, miscellaneous fittings, and anchors to interconnect handrail members to other work, unless otherwise indicated. Comply with the following:
1. Select and provide fasteners as required to accommodate substrate construction indicated. Coordinate anchorage devices with supporting structure.
 2. Furnish inserts and other anchorage devices for connecting handrails and railings to concrete or masonry work.
 3. Fabricate anchorage devices capable of withstanding loads imposed by handrails and railings.

Finishes, General

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

Iron and Steel Finishes

- A. **Galvanizing:** Hot-dip galvanize products made from rolled, pressed, and forged steel shapes, castings, plates, bars, and strips indicated to be galvanized to comply with ASTM A 123.
- Hot-dip galvanize iron and steel hardware indicated to be galvanized to comply with ASTM A 153.
- B. Fill vent and drain holes that will be exposed in finished Work, unless indicated to remain as weep holes, by plugging with zinc solder and filing off smooth.

Installation, General

- A. Provide anchorage devices and fasteners where necessary for securing handrail components to in-place construction.
- B. Perform cutting, drilling, and fitting required to install handrail. Set products accurately in location, alignment, and elevation; measured from established lines and levels. Provide temporary bracing or anchors in formwork for items to be built into concrete, masonry, or similar construction.
- C. Fit exposed connections accurately together to form tight, hairline joints or, where indicated, with uniform reveals and spaces for sealants and joint fillers. Where cutting, welding, and grinding are required for proper shop fitting and jointing of handrail components, restore finishes to eliminate any evidence of such corrective work.
- D. Do not cut or abrade finishes that cannot be completely restored in the field. Return items with such finishes to the shop for required alterations, followed by complete refinishing, or provide new units as required.
- E. Install concealed gaskets, joint fillers, insulation, and flashings as work progresses.
- F. Restore protective coverings that have been damaged during shipment or installation. Remove protective coverings only when there is no possibility of damage from other work yet to be performed at same location.

Retain protective coverings intact; remove coverings simultaneously from similarly finished items to preclude nonuniform oxidation and discoloration.
- G. Field Welding: Comply with applicable AWS specification for procedures of manual shielded metal arc welding, for appearance and quality of welds, and for methods used in correcting welding work. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Grind exposed welded joints smooth and restore finish to match finish of adjacent surfaces.

Installing Handrails

- A. Adjust handrails and railings before anchoring to ensure alignment at abutting joints.
- B. Welded Connections: Use fully welded joints for permanently connecting railing components by welding. Cope or butt components to provide 100 percent contact or use fittings designed for this purpose.
- C. Anchor railing ends into concrete or masonry with fittings designed for this purpose.

Protection

- A. Protect finishes of handrail material from damage during construction period with temporary protective coverings approved by metal fabricator. Remove protective covering at the time of Substantial Completion.
- B. Restore finishes damaged during installation and construction period so no evidence

remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

METHOD OF MEASUREMENT

Measurement of handrails is on a linear foot basis of actual handrail in place.

BASIS OF PAYMENT

These items of Work will be paid for at the Contract Unit Price per linear foot for HANDRAIL, 54" AND HANDRAIL, 24", which price will be payment in full for performing the work described herein and the concrete foundations as shown in the plans.

SPECIAL PROVISION
TEMPORARY SOIL RETENTION SYSTEM

DESCRIPTION

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

MATERIALS

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

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

CONSTRUCTION

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

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

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

Protection of Existing Structures:

The Contractor is responsible for providing and maintaining safety of existing structures and utilities for the entire duration of construction. These structures and utilities are those that are within the work limits and 300 feet outside the work limits, or as determined by the Engineer. If any temporary bracing or shoring is required for this purpose, the sole responsibility for the design, method of installation and adequacy of the system shall be and shall remain that of the Contractor.

The Contractor shall survey existing conditions and structures by videotaping, photographing, or other means both within and outside the work limits. Sufficient numbers of 4-inch x 6-inch color photographs of each existing structure shall be provided prior to construction. The contractor shall also walk thru with the Engineer and Owner of the property. The Contractor shall document any existing damages by taking detailed photographs of the area, possibly using a scale to approximately measure the size and extent of the damage. The pre-construction survey shall be documented in a written report and a copy shall be submitted to the property owner and Engineer. No sheet pile driving shall be permitted until all required surveys have been completed.

The Contractor shall submit proposed noise control, vibration control and dust control measures and acceptable levels for the same for the Engineer's review and approval. The Contractor shall employ a testing agency experienced in monitoring settlement, vibration and noise levels. The Contractor shall utilize construction means and methods that will not cause existing structure or utility damage due to vibration or settlement and ensure that vibration and settlement are within acceptable limits. The Contractor shall provide monitoring for existing structures and utilities both within and outside the property limits at no additional cost to the Engineer. Lateral and vertical readings shall also be taken on existing adjacent structures both within and outside the property limits.

The Contractor shall maintain a continuous check and log of the elevation and location of all sheeting components and structures and, upon any indication of settlement, the Contractor shall provide corrective measures as required without additional cost. If, at any time, the safety of any adjacent structures, streets, or utilities appears to be endangered; the Contractor shall cease operations, notify the Engineer, take all proper means to support such structures, etc., and do not resume operations until corrective measures have been completed. The Contractor shall provide and place additional bracing and shoring necessary to safeguard and prevent any such movement and settlement, or as so ordered by the Engineer. The Contractor shall design such system and submit to the Engineer for approval. If the Contractor fails to comply promptly with such order, such bracing and shoring may be placed by the Engineer at the Contractor's expense. Any such action, however, shall not relieve the Contractor of the responsibility for the adequacy of the temporary earth retention system.

Additional protection of adjacent bridge and building structures:

A complete photographic or video survey of these structures must be performed prior to the commencement of driving any sheeting. At this time any significant existing cracks must be identified and crack displacement sensors installed. Also at this time a seismograph should be installed on the structures, at a fixed location near the Work area. The seismograph will be used to measure the peak ground motions (or peak particle velocities; "ppv"), throughout the piling installation. Prior to sheet pile driving, the Contractor shall submit his plan for monitoring

his operations to assure compliance with this special provision and industry standards. Trained personnel shall be provided to operate the seismograph equipment and interpret the recordings.

All sheeting installed within 100 feet of these structures must be driven with high-velocity vibrators. This equipment, available in the Chicago area, produces lower ppv's than conventional vibratory pile drivers. Peak particle velocities measured must not exceed ¼ inch per second. The U.S. Bureau of Mines has established this number as the maximum ppv allowed.

During the sheet piling installation, if either the maximum ppv of 1/4 inch per second is exceeded, or the crack displacement sensors indicate excessive movements/displacements, installation of the sheeting by the vibratory driving method must be discontinued. Installation of the sheeting must then be performed using hydraulic drivers ("Still-worker" or approved equivalent type of equipment), which should produce little, if any, measurable ground motions.

METHOD OF MEASUREMENT

The temporary soil retention system furnished and installed according to the Contractor's approved design or as directed by the Engineer will be measured for payment in place, in square feet. The area measured shall be the vertical exposed surface area envelope of the excavation supported by temporary soil retention system.

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

BASIS OF PAYMENT

This work will be paid for at the contract unit price per square foot for TEMPORARY SOIL RETENTION SYSTEM.

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

Protection of existing structures, proper removal and storage of existing features to the satisfaction of the Engineer, pavement, rock fill, debris and other material will not be measured for separate payment, the cost of which is considered included in this pay item.

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

SPECIAL PROVISION
RAND ROAD FLOOD GATE

DESCRIPTION

This work shall consist of furnishing and installing the structural steel flood gate at Rand Road in accordance with details shown in the Plans and in this Special Provision, the American Institute of Steel Construction, Section 505 of the Standard Specifications, except as modified herein and on the Plans, and shall include all required cast-in steel embedments and anchor bolts in the concrete supporting foundations for connecting the gate to their supporting foundations at each end. Included in this pay item are the gate locking structures and the gate center support foundation, in accordance with the details shown on the drawings, leak testing and training. This work shall also include all excavation, backfilling, dewatering and temporary earth retention systems, whether or not shown on the Plans, but required to protect existing structures and utilities, and pavement removal and replacement required to construct the gate locking structures and the gate center support foundation, in accordance with the Standard Specifications. The supporting foundations on each end of the gate will not be paid for as part of this pay item, but will be paid for separately.

MATERIALS

A. Materials used in the construction of the steel flood gates shall conform to the following:

<u>Part</u>	<u>ASTM Designation</u>
1. All steel plates, shapes and tie rods.	ASTM A36 (AASHTO M183, Grade 36) except as otherwise noted.
2. Hollow structural steel tubes (HSS)	ASTM A500, Grade B, Fy = 46 ksi
3. Bolts and set screws	ASTM A325 (AASHTO M20) 3/4" diameter except as otherwise noted
4. Anchor bolts	ASTM F593, Type 316, Condition A, Alloy F593F, Group 2, Fy = 30ksi, with matching nuts and washers.
5. Stainless steel plates, hinge pins and bearing pedestals and pedestal base plate.	Stainless Steel, ASTM A276, Type XM-19 Fy = 55 ksi.
6. Bushing and thrust washer.	Bronze, ASTM B22, UNS No. C91300.
7. Outer cylinder and steel pipe	ASTM A53 or ASTM A500, Grade B
8. Turnbuckle and clevis.	Meeting the requirements of AISC, the American Institute of Steel Construction
9. Chain and lock for locking gate	5/16" Grade 80 High Strength Poly Coated Alloy Chain and lock.

- B. Grout: Non-shrink type, premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing additives, capable of developing a minimum compressive strength of 7,000 psi at 28 days.
- C. Grease Seal and V-ring for the upper hinge and lower bearing shall be stainless steel and provided in accordance with the details shown on the plans and shall be as manufactured by Chicago Rawhide, Elgin, Illinois, or approved equal.
- D. Hand Winch shall be worm gear type provided in accordance with the details shown on the plans and shall be as manufactured by Thern, Incorporated, Winona, Minnesota, or approved equal.
- E. Wire rope, sheave and clevis shall be Type 316 stainless steel provided in accordance with the details shown on the plans and shall be as manufactured by McMaster-Carr or approved equal.
- F. Hinges shall be heavy duty stainless steel and shall be provided in accordance with details shown on the plans and shall be as manufactured by Brookfield Industries, Thomaston, Connecticut, or approved equal.
- G. Seals
1. J-type seals shall be 7-inches long with a 1³/₄" solid bulb and 9/16" stem, molded (not extruded) from compounds of natural rubber, EPDM or neoprene, with overall length of 7 inches, as manufactured by Seals Unlimited, Inc. Beaverton, Oregon or approved equal.
 2. J-type seals shall be designed for a 1/4" preset space between the seal and the sealing surface to ensure compression of the seal against the sealing surface.
 3. Strip seals shall be molded from compounds of natural rubber, EPDM, or neoprene as shown and detailed on the Drawings.
 4. Transitions from bottom to side seals shall be made with special molded corner pieces factory hot vulcanize spliced to the main seal pieces at approximately 1 foot from the corner in accordance with the seal manufacturer's recommendations.
 5. Rubber hardness for all seals shall be 50 shore Type A, durometer hardness.
 6. Seals must form a continuous watertight envelope with factory hot vulcanized splices.
 7. Seals shall comply with ASTM D395, D412, D471, D572 and D2240.
 8. J-type and strip seals in contact with pavement or concrete in either the open or closed position must be coated with Teflon (flouro-carbon) abrasive resistant sheath bonded to the seal by the "molded only" form of manufacture. The Teflon sealing surface shall be kept clean and free of bonding agents and rubber. The Teflon coating shall extend a minimum of 3-inches beyond the contact width on each side. The Teflon shall meet the following minimum requirements:

Minimum tensile strength - 2000 psi.
Minimum elongation - 250%

Test of bond strength of the Teflon to the rubber shall be performed per ASTM D413.

H. Welding

1. All welding of carbon steel shall conform to the latest specification of the American Welding Society, AWS D1.1. All welded connections shall be made with AWS A5.1 or A5.5, minimum 70 ksi tensile strength.
2. All welding of stainless steel to stainless steel and stainless steel to carbon steel shall conform to the latest specification of the American Welding Society, AWS D1.6, using austenitic stainless electrodes, minimum 70 ksi tensile strength and the Boiler and Pressure Vessel Code (American Society of Mechanical Engineers (ASME). Use low carbon content weld consumables to prevent intergranular corrosion E304L, E309L OR E316L for stainless to stainless welding or E309L for stainless to mild steel welding.

SUBMITTALS

- A. Submit shop drawings and product data showing all dimensions, construction, welded and bolted connections and materials used for all parts of the steel flood gate, including cast-in steel embedments and anchor bolts.
- B. Mill Test Reports: Submit reports indicating structural strength, destructive and non-destructive test analyses.
- C. Manufacturer's Mill Certificate: Certify that products meet or exceed specified requirements.
- D. Welders Certificates: Certify welders employed on this Work, AWS qualification within the previous 12 months.
- E. Submit 12" long samples of all seals to be used in the work.
- F. Submit Munsell color chart for final paint coat color to be selected by City of Des Plaines.
- G. Submit procedure for leak testing gates and method of measuring leakage as evidence of conformance with the requirements of this Special Provision for review and approval.

QUALITY ASSURANCE

Fabricate and erect structural steel members and perform work in accordance with the American Institute of Steel Construction (AISC) and the Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction.

Fabricator shall be a company specializing in fabricating and performing the work specified in this Special Provision and as shown on the Plans with minimum 5 years documented experience and holding current AISC Certification for Category II: Complex Buildings or Category III: Major Steel

Bridges.

Erector shall be a company specializing in performing the work specified in this Special Provision and as shown on the Plans with minimum 5 years documented experience.

MOCK-UP

To ensure smooth operation of the gate, the Contractor must fabricate and install in the field one leaf of the Rand Road Flood Gate, including concrete foundation and all necessary connections to the gate, prior to fabrication of the other leaf and prior to fabrication of either leaf of the Ballard Road Flood Gate, for field review and approval by the Engineer. Any field or shop modifications required to correct deficiencies in the operation or fabrication of the gates as a result of this field mock-up shall be made at no additional cost to the Owner.

FIELD MEASUREMENTS

Verify in field all measurements shown on the Plans and Shop Drawings prior to fabrication of material.

FABRICATION AND INSTALLATION

The Contractor shall fabricate and install the movable steel plate at the bottom of the gate using a template to match the profile of the road, curb and sidewalk for a watertight seal.

Fabricate gate frame to be flat within 1/16".

Field adjust operating parts to ensure smooth and unhindered operation.

FITS AND FINISHES

Fits and finishes for bearings shall be as specified on the Plans and in accordance with the American Association of State Highway and Transportation Officials (AASHTO) Standard Specifications for Movable Bridges and the American National Standards Institute (ANSI) B4.1 and B46.1.

LEAKAGE AND LEAK TESTING

- A. The steel flood gates, including connections to the concrete foundations, shall be substantially watertight with the water level up to the top of the topping over elevation.
- B. Leak test the gates for a period of 4 hours, on a Saturday between the hours of midnight and 8 am. The leakage shall not exceed 0.1 gallons per minute per foot of periphery. Failure to pass the leak test will require repair and retest of the flood gate at no additional cost to the Owner.
- C. Leak test shall be monitored and certified by an independent testing agency, cost of which shall be paid for by the Contractor. Leak test will be approved by the Owner.

ROAD CLOSURES

- A. The Contractor shall coordinate road closure with the Illinois Department of Transportation

(IDOT) and the City of Des Plaines.

TRAINING

The Contractor shall provide one training session for the Owner and the City of Des Plaines Public Works Department for instructing the staff on the operation, both opening and closing, and maintenance of the gate.

DISSIMILAR METALS

Dissimilar metals shall be separated from each other with approved gaskets or coatings to prevent galvanic corrosion.

CLEANING AND PAINTING

Cleaning and painting shall conform to the Standard Specifications, CLEANING AND PAINTING NEW METAL STRUCTURES, at the end of this Special Provision, except as modified herein, and the paint manufacturer's recommendations.

Provide a 3 coat system, with all coats shop applied, consisting of an organic zinc rich primer coat, an epoxy intermediate coat and a urethane paint topcoat. The system shall be for full shop application of the coating system.

Color shall be as selected by the City of Des Plaines.

SUGGESTED SEQUENCE OF OPERATION

- A. Unlock gate from Locking Structure.
- B. Grease bearings.
- C. Oil movable plate hinges.
- D. Swing gates into closed position.
- E. Remove manhole lids from the gate center support foundation at the center of the gate.
- F. Remove the steel drive wedges stored inside the post pockets in the gate center support foundation.
- G. Drop gate center support posts into post pockets in the gate center support foundation and install drive wedges on the flood side of the center support posts to hold the center support posts in position.
- H. Install center seal tube and tighten swing bolts to close off the center of the gate.
- I. Tightens nuts on threaded studs at center of gate.
- J. Install crank handles on winches and lower movable plate at bottom of gate making seals rest firmly on supporting pavement, sidewalk and curb.

- K. Install closure wedges and tap them into position so as to seal them against the strip seal along the end of the movable plate at the bottom of the gate and against the J-seal at the bottom. The top of the closure wedges must be seated against the bar that extends below the far side of the trusses and is part of the movable ends of the trusses. The bottom of the closure wedge must rest on the pavement.
- L. Sand bag along sides and end of closure wedges at the center joint and ends of gate for a watertight seal.
- M. After flood has receded and before moving gate leaves back to the open position, remove the hex socket pipe plugs in the lower bearing (the bearing will have been submerged during flooding), 4 in the outer cylinder and 4 above the thrust bearing, to check for water in the bearings. If water has infiltrated the bearing, flush clean and relubricate before moving the gate. Perform the above steps in opposite order and lock the gates to the locking structures and pump or vacuum mud and water from the post pockets.
- N. Remove the crank handles from the winches and the closure wedges and seal tube at the center of the gate for storage by the City.

METHOD OF MEASUREMENT

Flood gates will be measured on a lump sum basis.

BASIS OF PAYMENT

This work will be paid for at the contract lump sum price for the structural steel RAND ROAD FLOOD GATE which price will be payment in full for all labor, materials, fabrication, transportation, handling, erection, testing, training and any incidentals necessary to furnish, install and test all materials as specified herein and as shown on the Plans, including the gate locking structures and the gate center support foundation, and shall include all required cast-in steel embedments and anchor bolts for connecting the gate to the supporting concrete foundations on each end of the gate for a fully watertight and operational gate. The supporting foundations on each end of the gate will not be paid for as part of this pay item, but will be paid for separately.

All costs associated with road closures and traffic control during construction and for leak testing will not be paid for separately, but is included in this pay item.

Cleaning and Painting New Metal Structures

Effective Date: September 13, 1994

Revised Date: August 19, 2004

Description. The material and construction requirements that apply to cleaning and painting new structural steel shall be according to the applicable portion of Sections 506 of the Standard Specifications except as modified herein. The three coat paint system shall be the system as specified on the plans and as defined herein.

Materials. All materials to be used on an individual structure shall be produced by the same manufacturer. The Bureau of Materials and Physical Research has established a list of all products that have met preliminary requirements. Each batch of material must be tested and approved by that bureau before use.

The paint materials shall meet the requirements of the following articles of the Standard Specification:

<u>Item</u>		<u>Article</u>
(a)	Inorganic Zinc-Rich Primer	1008.22
(b)	Waterborne Acrylic	1008.24
(c)	Aluminum Epoxy Mastic	1008.25
(d)	Organic Zinc-Rich Primer (Note 1)	
(e)	Epoxy Intermediate (Note 1)	
(f)	Aliphatic Urethane (Note 1)	

Note 1: These material requirements shall be according to the Special Provision for the Organic Zinc-Rich Paint System.

Submittals. At least 30 days prior to beginning field painting, the Contractor shall submit for the Engineer's review and acceptance, the following applicable plans, certifications and information for completing the field work. Field painting can not proceed until the submittals are accepted by the Engineer. Qualifications, certifications and QC plans for shop cleaning and painting shall be available for review by the QA Inspector.

- a) Contractor/Personnel Qualifications. Except for miscellaneous steel items such as bearings, side retainers, expansion joint devices, and other items allowed by the Engineer, or unless stated otherwise in the contract, the shop painting Contractors shall be certified to perform the work as follows: the shop painting Contractor shall possess AISC Sophisticated Paint Endorsement or SSPC-QP3 certification. Evidence of current qualifications shall be provided.

Personnel managing the shop and field Quality Control program(s) for this work shall possess a minimum classification as a National Association of Corrosion Engineers (NACE) Coating Inspector Technician, or shall provide evidence of successful inspection of 3 projects of similar or greater complexity and scope that have been completed in the last 2 years. Copies of the certification and/or experience shall be provided.

The personnel performing the QC tests for this work shall be trained in coatings inspection and the use of the testing instruments. Documentation of training shall be provided.

- b) Quality Control (QC) Program. The shop and field QC Programs shall identify the following; the instrumentation that will be used, a schedule of required measurements and observations, procedures for correcting unacceptable work, and procedures for improving surface preparation and painting quality as a result of quality control findings. The field program shall incorporate the IDOT Quality Control Daily Report form, as supplied by the Engineer.
- c) Field Cleaning and Painting Inspection Access Plan. The inspection access plan for use by Contractor QC personnel for ongoing inspections and by the Engineer during Quality Assurance (QA) observations.
- d) Surface Preparation/Painting Plan. The surface preparation/painting plan shall include the methods of surface preparation and type of equipment to be utilized for solvent

cleaning, abrasive blast cleaning, washing, and power tool cleaning. The plan shall include the manufacturer's names of the materials that will be used, including Product Data Sheets and Material Safety Data Sheets (MSDS).

A letter or written instructions from the coating manufacturer shall be included, indicating the required drying time for each coat at the minimum, normal, and maximum application temperatures before the coating can be exposed to temperatures or moisture conditions that are outside of the published application parameters.

Field Quality Control (QC) Inspections. The Contractor shall perform first line, in process QC inspections of each phase of the work. The Contractor shall implement the submitted and accepted QC Program to insure that the work accomplished complies with these specifications. The Contractor shall use the IDOT Quality Control Daily Report form supplied by the Engineer to record the results of quality control tests. The completed reports shall be turned into the Engineer before work resumes the following day.

The Contractor shall have available at the shop or on the field site, all of the necessary inspection and testing equipment. The equipment shall be available for the Engineer's use when requested.

Field Quality Assurance (QA) Observations. The Engineer will conduct QA observations of any or all phases of the work. The Engineer's observations in no way relieve the Contractor of the responsibility to provide all necessary daily QC inspections of his/her own and to comply with all requirements of this Specification.

The Engineer has the right to reject any work that was performed without adequate provision for QA observations.

The Engineer will issue a Non-Conformance Report when cleaning and painting work is found to be in violation of the specification requirements, and is not corrected to bring it into compliance before proceeding with the next phase of work.

Inspection Access and Lighting. The Contractor shall facilitate the Engineer's observations as required, including allowing ample time to view the work. The Contractor shall furnish, erect and move scaffolding or other mechanical equipment to permit close observation of all surfaces to be cleaned and painted. This equipment shall be provided during all phases of the work. Examples of acceptable access structures include:

- Mechanical lifting equipment, such as, scissor trucks, hydraulic booms, etc.
- Platforms suspended from the structure comprised of trusses or other stiff supporting members and including rails and kick boards.
- Simple catenary supports are permitted only if independent life lines for attaching a fall arrest system according to Occupational Safety and Health Administration (OSHA) regulations are provided.

When the surface to be inspected is more than 1.8 m (6 ft) above the ground or water surface, the Contractor shall provide the Engineer with a safety harness and a lifeline according to OSHA regulations. The lifeline and attachment shall not direct the fall into oncoming traffic. The Contractor shall provide a method of attaching the lifeline to the structure independent of the inspection facility or any support of the platform. When the inspection facility is more than 800 mm (2 1/2 ft) above the ground, the Contractor shall provide an approved means of access

onto the platform.

The Contractor shall provide artificial lighting in areas where natural light is inadequate, as determined by the Engineer, to allow proper cleaning, inspection, and painting. Illumination for inspection shall be at least 325 LUX (30 foot candles). Illumination for cleaning and painting, including the working platforms, access, and entryways shall be at least 215 LUX (20 foot candles).

Construction Requirements. The Contractor shall be responsible for any damage caused to persons, vehicles, or property, except as indemnified by the Response Action Contractor Indemnification Act. Whenever the intended purposes of the protective devices are not being accomplished, as determined by the Engineer, work shall be immediately suspended until corrections are made. Painted surfaces damaged by any Contractor's operation shall be removed and repainted, as directed by the Engineer, at the Contractor's expense.

The Contractor shall comply with the provisions of the Illinois Environmental Protection Act. Paint drips, spills, and overspray are not permitted to escape into the air or onto any other surfaces or surrounding property not intended to be painted. Containment shall be used to control paint drips, spills, and overspray, and shall be dropped and all equipment secured when sustained wind speeds of 64 kph (40 mph) or greater occur, unless the containment design necessitates action at lower wind speeds. The contractor shall evaluate project-specific conditions to determine the specific type and extent of containment needed to control the paint emissions and shall submit a plan for containing or controlling paint debris (droplets, spills, overspray, etc.) to the Engineer for approval prior to starting the work. Approval shall not relieve the Contractor of their ultimate responsibility for controlling paint debris from escaping the work zone.

Surface and Weather Conditions. Surfaces to be painted after cleaning shall remain free of moisture and other contaminants. The Contractor shall control his/her operations to insure that dust, dirt, or moisture does not come in contact with surfaces cleaned or painted that day.

The surface temperature shall be at least 3°C (5°F) above the dew point during final surface preparation operations. The paint manufacturers' published literature shall be followed for specific temperature, dew point, and humidity restrictions during the application of each coat.

The Contractor shall monitor temperature, dew point, and humidity every 4 hours during surface preparation and coating application in the specific areas where the work is being performed. The frequency of monitoring shall increase if weather conditions are changing. The Engineer has the right to reject any work that was performed under unfavorable weather conditions. Rejected work shall be removed, recleaned, and repainted at the Contractor's expense.

Seasonal Restrictions on Field Cleaning and Painting. Field cleaning and painting work shall be accomplished between April 15 and October 31 unless authorized otherwise by the Engineer in writing.

Inorganic Zinc-rich/ Waterborne Acrylic Paint system. This system shall be for shop and field application of the coating system, shop application of the intermediate and top coats will not be allowed.

In the shop, all structural steel designated to be painted shall be given one coat of inorganic zinc rich primer. In the field, before the application of the intermediate coat, the prime coat and any

newly installed fasteners shall be spot solvent cleaned per SSPC-SP 1 and all surfaces pressure washed to remove dirt, oil, lubricants, oxidation products, and foreign substances. Washing shall involve the use of potable water at a pressure between 7 MPa (1000 psi) and 34 MPa (5000 psi) and according to "Low Pressure Water Cleaning" of SSPC-SP12. Paint spray equipment shall not be used to perform the water cleaning. All damaged shop primed areas shall then be spot cleaned per SSPC-SP3 and spot primed with aluminum epoxy mastic. The structural steel shall then receive one full intermediate coat and one full topcoat of waterborne acrylic paint.

- a) Paint drips, spills, and overspray must be controlled. If containment is used to control paint drips, spills, and overspray, the containment shall be dropped and all equipment secured when sustained wind speeds of 64 kph (40 mph) or greater occur. When the protective coverings need to be attached to the structure, they shall be attached by bolting, clamping, or similar means. Welding or drilling into the structure is prohibited unless approved by the Engineer in writing.
- b) Coating Dry Film Thickness (dft), measured according to SSPC-PA2:
Zinc Primer: 75 microns (3 mils) min., 150 microns (6 mils) max.
Epoxy Mastic: 125 microns (5 mils) min., 180 microns (7 mils) max.
Intermediate Coat: 50 microns (2 mils) min., 100 microns (4 mils) max.
Topcoat: 50 microns (2 mils) min., 100 microns (4 mils) max.

The total dry film thickness, excluding the spot areas touched up with epoxy mastic, shall be between 180 and 355 microns (7 and 14 mils).

- c) The pressure washing requirement above may be waived if the QC and QA Inspectors verify the primed surfaces have not been contaminated.
- d) Damage to the paint system shall be spot cleaned using SSPC-SP3. The cleaned areas shall be spot painted with a penetrating sealer as recommended by the manufacturer, which shall overlap onto the existing topcoat. Then the aluminum epoxy mastic shall be spot applied not to go beyond the area painted with the sealer. The acrylic intermediate and topcoat shall be spot applied to the mastic with at least a 150 mm (6 inch) overlap onto the existing topcoat.

Organic Zinc-Rich/ Epoxy/ Urethane Paint System. This system shall be for full shop application of the coating system, all contact surfaces shall be masked off prior to application of the intermediate and top coats.

Additional Surface Preparation. In addition to the requirements of Section 3.2.9 of the AASHTO/AWS D1.5M/D1.5:2002 Bridge Welding Code (breaking thermal cut corners of stress carrying members), rolled and thermal cut corners to be painted with organic zinc primer shall be broken if they are sharper than a 1.5 mm (1/16 in.) radius. Corners shall be broken by a single pass of a grinder or other suitable device at a 45° angle to each adjoining surface prior to final blast cleaning, so the resulting corner approximates a 1.5 mm (1/16 in.) or larger radius after blasting. Surface anomalies (burrs, fins, deformations) shall also be treated to meet this criteria before priming.

In the shop, all structural steel designated to be painted shall be given one coat of organic zinc rich primer. Before the application of the intermediate coat, the prime coat and any newly

installed fasteners shall be spot solvent cleaned per SSPC-SP 1 and all surfaces pressure washed to remove dirt, oil, lubricants, oxidation products, and foreign substances. Washing shall involve the use of potable water at a pressure between 7 MPa (1000 psi) and 34 MPa (5000 psi) and according to "Low Pressure Water Cleaning" of SSPC-SP12. Paint spray equipment shall not be used to perform the water cleaning. All damaged shop primed areas shall then be spot cleaned per SSPC-SP3, and the structural steel shall then receive one full intermediate coat of epoxy and one full topcoat of aliphatic urethane.

- (a) Paint drips, spills, and overspray must be controlled. If containment is used to control paint drips, spills, and overspray, the containment shall be dropped and all equipment secured when sustained wind speeds of 64 kph (40 mph) or greater occur. When the protective coverings need to be attached to the structure, they shall be attached by bolting, clamping, or similar means. Welding or drilling into the structure is prohibited unless approved by the Engineer in writing.
- (b) Coating Dry Film Thickness (dft), measured according to SSPC-PA2:
 - organic Zinc Primer: 75 microns (3 mils) min., 125 microns (5 mils) max.
 - Aluminum Epoxy Mastic: 125 microns (5 mils) min., 180 microns (7 mils) max.
 - Epoxy Intermediate Coat: 75 microns (3 mils) min., 150 microns (6 mils) max.
 - Aliphatic Urethane Top Coat: 65 microns (2.5 mils) min., 100 microns (4 mils) max.
- (c) The total dry film thickness, excluding the spot areas touched up with epoxy mastic, shall be between 215 and 375 microns (8.5 and 15 mils).
- (d) When specified on the plans or as requested by the Contractor, and approved by the Engineer, the epoxy intermediate and aliphatic urethane top coats shall be applied in the shop. All faying surfaces of field connections shall be masked off after priming and shall not receive the intermediate or top coats in the shop. The intermediate and top coats for field connections shall be applied, in the field, after erection of the structural steel is completed. The pressure washing requirement above may be waived if the QC and QA Inspectors verify the primed surfaces have not been contaminated.
- (e) Erection and handling damage to the shop applied system shall be spot cleaned using SSPC-SP3. The surrounding coating at each repair location shall be feathered for a minimum distance of 40 mm (1 1/2 in.) to achieve a smooth transition between the prepared areas and the existing coating. The existing coating in the feathered area shall be roughened to insure proper adhesion of the repair coats. The areas cleaned to bare metal shall be spot painted with aluminum epoxy mastic. The intermediate and finish coat shall be spot applied to with at least a 150 mm (6 inch) overlap onto the existing finish coat.

The paint manufacturer's product data sheets shall be available for QA review in the shop and submitted to the Engineer prior to start of field work and the requirements as outlined in the data sheets shall be followed.

Special Instructions.

Painting Date/System Code. At the completion of the work, the Contractor shall stencil in contrasting color paint the date of painting the bridge, the painting Contractors name, and the paint type code from the Structure Information and Procedure Manual for the system used. The letters shall be capitals, not less than 50 mm (2 in.) and not more than 75 mm (3 in.) in height.

The stencil shall contain the following wording "PAINTED BY (insert the name of the painting Contractor)" and shall show the month and year in which the painting was completed, followed by "CODE S" for the Inorganic Zinc/ Acrylic System and "CODE X" for the Organic Zinc/ Epoxy/ Urethane System, all stenciled on successive lines. This information shall be stenciled on the cover plate of a truss end post near the top of the railing, or on the outside face of an outside stringer near both ends of the bridge facing traffic, or at some equally visible surface designated by the Engineer.

Method of Measurement. Shop cleaning and painting new structures will not be measured for payment. Field cleaning and painting will not be measured for payment except when performed under a contract that contains a separate pay item for this work.

Basis of Payment. This work will be paid for according to Article 506.07.

SPECIAL PROVISION
BALLARD ROAD FLOOD GATE

DESCRIPTION

This work shall consist of furnishing and installing the structural steel flood gate at Ballard Road in accordance with details shown in the Plans and in this Special Provision, the American Institute of Steel Construction, Section 505 of the Standard Specifications, except as modified herein and on the Plans, and shall include all required cast-in steel embedments and anchor bolts in the concrete supporting foundations for connecting the gate to their supporting foundations at each end. Included in this pay item are the gate locking structures and the gate center support foundation, in accordance with the details shown on the drawings, leak testing and training. This work shall also include all excavation, backfilling, dewatering and temporary earth retention systems, whether or not shown on the Plans, but required to protect existing structures and utilities, and pavement removal and replacement required to construct the gate locking structures and the gate center support foundation, in accordance with the Standard Specifications. The supporting foundations on each end of the gate will not be paid for as part of this pay item, but will be paid for separately.

MATERIALS

A. Materials used in the construction of the steel flood gates shall conform to the following:

<u>Part</u>	<u>ASTM Designation</u>
1. All steel plates, shapes and tie rods.	ASTM A36 (AASHTO M183, Grade 36) except as otherwise noted.
2. Hollow structural steel tubes (HSS)	ASTM A500, Grade B, Fy = 46 ksi
3. Bolts and set screws	ASTM A325 (AASHTO M20) 3/4" diameter except as otherwise noted
4. Anchor bolts	ASTM F593, Type 316, Condition A, Alloy F593F, Group 2, Fy = 30ksi, with matching nuts and washers.
5. Stainless steel plates, hinge pins and bearing pedestals and pedestal base plate.	Stainless Steel, ASTM A276, Type XM-19 Fy = 55 ksi.
6. Bushing and thrust washer.	Bronze, ASTM B22, UNS No. C9130.
7. Outer cylinder and steel pipe	ASTM A53 or ASTM A500, Grade B.
8. Turnbuckle and clevis.	Meeting the requirements of AISC, the American Institute of Steel Construction
9. Chain and lock for locking gate	5/16" Grade 80 High Strength Poly Coated Alloy Chain and lock.

- B. Grout: Nonshrink type, premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing additives, capable of developing a minimum compressive strength of 7,000 psi at 28 days.
- C. Grease Seal and V-ring for the upper hinge and lower bearing shall be stainless steel and provided in accordance with the details shown on the plans and shall be as manufactured by Chicago Rawhide, Elgin, Illinois, or approved equal.
- D. Hand Winch shall be worm gear type provided in accordance with the details shown on the plans and shall be as manufactured by Thern, Incorporated, Winona, Minnesota, or approved equal.
- E. Wire rope, sheave and clevis shall be Type 316 stainless steel provided in accordance with the details shown on the plans and shall be as manufactured by McMaster-Carr or approved equal.
- F. Hinges shall be heavy duty stainless steel and shall be provided in accordance with details shown on the plans and shall be as manufactured by Brookfield Industries, Thomaston, Connecticut, or approved equal.
- G. Seals
 - 1. J-type seals shall be 7-inches long with a 1 $\frac{3}{4}$ " solid bulb and 9/16" stem, molded (not extruded) from compounds of natural rubber, EPDM or neoprene, with overall length of 7 inches, as manufactured by Seals Unlimited, Inc. Beaverton, Oregon or approved equal.
 - 2. J-type seals shall be designed for a $\frac{1}{4}$ " preset space between the seal and the sealing surface to ensure compression of the seal against the sealing surface.
 - 3. Strip seals shall be molded from compounds of natural rubber, EPDM, or neoprene as shown and detailed on the Drawings.
 - 4. Transitions from bottom to side seals shall be made with special molded corner pieces factory hot vulcanize spliced to the main seal pieces at approximately 1 foot from the corner in accordance with the seal manufacturer's recommendations.
 - 5. Rubber hardness for all seals shall be 50 shore Type A, durometer hardness.
 - 6. Seals must form a continuous watertight envelope with factory hot vulcanized splices.
 - 7. Seals shall comply with ASTM D395, D412, D471, D572 and D2240.
 - 8. J-type and strip seals in contact with pavement or concrete in either the open or closed position must be coated with Teflon (flouro-carbon) abrasive resistant sheath bonded to the seal by the "molded only" form of manufacture. The Teflon sealing surface shall be kept clean and free of bonding agents and rubber. The Teflon coating shall extend a minimum of 3-inches beyond the contact width on each side. The Teflon shall meet the following minimum requirements:

Minimum tensile strength - 2000 psi.
Minimum elongation - 250%

Test of bond strength of the Teflon to the rubber shall be performed per ASTM D413.

H. Welding

1. All welding of carbon steel shall conform to the latest specification of the American Welding Society, AWS D1.1. All welded connections shall be made with AWS A5.1 or A5.5, minimum 70 ksi tensile strength.
2. All welding of stainless steel to stainless steel and stainless steel to carbon steel shall conform to the latest specification of the American Welding Society, AWS D1.6, using austenitic stainless electrodes, minimum 70 ksi tensile strength and the Boiler and Pressure Vessel Code (American Society of Mechanical Engineers (ASME). Use low carbon content weld consumables to prevent intergranular corrosion E304L, E309L OR E316L for stainless to stainless welding or E309L for stainless to mild steel welding.

SUBMITTALS

- A. Submit shop drawings and product data showing all dimensions, construction, welded and bolted connections and materials used for all parts of the steel flood gate, including cast-in steel embedments and anchor bolts.
- B. Mill Test Reports: Submit reports indicating structural strength, destructive and non-destructive test analyses.
- C. Manufacturer's Mill Certificate: Certify that products meet or exceed specified requirements.
- D. Welders Certificates: Certify welders employed on this Work, AWS qualification within the previous 12 months.
- E. Submit 12" long samples of all seals to be used in the work.
- F. Submit Munsell color chart for final paint coat color to be selected by City of Des Plaines.
- G. Submit procedure for leak testing gates and method of measuring leakage as evidence of conformance with the requirements of this Special Provision for review and approval.

QUALITY ASSURANCE

Fabricate and erect structural steel members and perform work in accordance with the American Institute of Steel Construction (AISC) and the Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction.

Fabricator shall be a company specializing in fabricating and performing the work specified in this Special Provision and as shown on the Plans with minimum 5 years documented experience and holding current AISC Certification for Category II: Complex Buildings or Category III: Major Steel

Bridges.

Erector shall be a company specializing in performing the work specified in this Special Provision and as shown on the Plans with minimum 5 years documented experience.

MOCK-UP

To ensure smooth operation of the gate, the Contractor must not fabricate any portion of the Ballard Road Flood Gate until the Rand Road Flood Gate Mock-Up has been approved by the Engineer. Refer to the Special Provision for the Rand Road Flood Gate. Any field or shop modifications required to correct deficiencies in the operation or fabrication of the gate as a result of the Rand Road field mock-up shall be made at no additional cost to the Owner.

FIELD MEASUREMENTS

Verify in field all measurements shown on the Plans and Shop Drawings prior to fabrication of material.

FABRICATION AND INSTALLATION

The Contractor shall fabricate and install the movable steel plate at the bottom of the gate using a template to match the profile of the road, curb and sidewalk for a watertight seal.

Fabricate gate frame to be flat within 1/16".

Field adjust operating parts to ensure smooth and unhindered operation.

FITS AND FINISHES

Fits and finishes for bearings shall be as specified on the Plans and in accordance with the American Association of State Highway and Transportation Officials (AASHTO) Standard Specifications for Movable Bridges and the American National Standards Institute (ANSI) B4.1 and B46.1.

LEAKAGE AND LEAK TESTING

- A. The steel flood gates, including connections to the concrete foundations, shall be substantially watertight with the water level up to the top of the topping over elevation.
- B. Leak test the gates for a period of 4 hours, on a Saturday between the hours of midnight and 8 am. The leakage shall not exceed 0.1 gallons per minute per foot of periphery. Failure to pass the leak test will require repair and retest of the flood gate at no additional cost to the Owner.
- C. Leak test shall be monitored and certified by an independent testing agency, cost of which shall be paid for by the Contractor. Leak test will be approved by the Owner.

ROAD CLOSURE

- A. The Contractor shall coordinate road closure with the Illinois Department of Transportation (IDOT) and the City of Des Plaines.

TRAINING

The Contractor shall provide one training session for the Owner and the City of Des Plaines Public Works Department for instructing the staff on the operation, both opening and closing, and maintenance of the gate.

DISSIMILAR METALS

Dissimilar metals shall be separated from each other with approved gaskets or coatings to prevent galvanic corrosion.

CLEANING AND PAINTING

Cleaning and painting shall conform to the Standard Specifications, CLEANING AND PAINTING NEW METAL STRUCTURES, at the end of this Special Provision, except as modified herein, and the paint manufacturer's recommendations.

Provide a 3 coat system, with all coats shop applied, consisting of an organic zinc rich primer coat, an epoxy intermediate coat and a urethane paint topcoat. The system shall be for full shop application of the coating system.

Color shall be as selected by the City of Des Plaines.

SUGGESTED SEQUENCE OF OPERATION

- A. Unlock gate from Locking Structure.
- B. Grease bearings.
- C. Oil movable plate hinges.
- D. Swing gates into closed position.
- E. Remove manhole lids from the gate center support foundation at the center of the gate.
- F. Remove the steel drive wedges stored inside the post pockets in the gate center support foundation.
- G. Drop gate center support posts into post pockets in the gate center support foundation and install drive wedges on the flood side of the center support posts to hold the center support posts in position.
- H. Install center seal tube and tighten swing bolts to close off the center of the gate.
- I. Tightens nuts on threaded studs at center of gate.
- J. Install crank handles on winches and lower movable plate at bottom of gate making seals rest firmly on supporting pavement, sidewalk and curb.
- K. Install closure wedges and tap them into position so as to seal them against the strip seal

along the end of the movable plate at the bottom of the gate and against the J-seal at the bottom. The top of the closure wedges must be seated against the bar that extends below the far side of the trusses and is part of the movable ends of the trusses. The bottom of the closure wedge must rest on the pavement.

- L. Sand bag along sides and end of closure wedges at the center joint and ends of gate for a watertight seal.
- M. After flood has receded and before moving gate leafs back to the open position, remove the hex socket pipe plugs in the lower bearing (the bearing will have been submerged during flooding), 4 in the outer cylinder and 4 above the thrust bearing, to check for water in the bearings. If water has infiltrated the bearing, flush clean and relubricate before moving the gate. Perform the above steps in opposite order and lock the gates to the locking structures and pump or vacuum mud and water from the post pockets.
- N. Remove the crank handles from the winches and the closure wedges and seal tube at the center of the gate for storage by the City.

METHOD OF MEASUREMENT

Flood gates will be measured on a lump sum basis.

BASIS OF PAYMENT

This work will be paid for at the contract lump sum price for the structural steel BALLARD ROAD FLOOD GATE which price will be payment in full for all labor, materials, fabrication, transportation, handling, erection, testing, training and any incidentals necessary to furnish, install and test all materials as specified herein and as shown on the Plans, including the gate locking structures and the gate center support foundation, and shall include all required cast-in steel embedments and anchor bolts for connecting the gate to the supporting concrete foundations on each end of the gate for a fully watertight and operational gate. The supporting foundations on each end of the gate will not be paid for as part of this pay item, but will be paid for separately.

All costs associated with road closures and traffic control during construction and for leak testing will not be paid for separately, but is included in this pay item.

Cleaning and Painting New Metal Structures

Effective Date: September 13, 1994

Revised Date: August 19, 2004

Description. The material and construction requirements that apply to cleaning and painting new structural steel shall be according to the applicable portion of Sections 506 of the Standard Specifications except as modified herein. The three coat paint system shall be the system as specified on the plans and as defined herein.

Materials. All materials to be used on an individual structure shall be produced by the same manufacturer. The Bureau of Materials and Physical Research has established a list of all products that have met preliminary requirements. Each batch of material must be tested and approved by that bureau before use.

The paint materials shall meet the requirements of the following articles of the Standard

Specification:

<u>Item</u>		<u>Article</u>
(a)	Inorganic Zinc-Rich Primer	1008.22
(b)	Waterborne Acrylic	1008.24
(c)	Aluminum Epoxy Mastic	1008.25
(d)	Organic Zinc-Rich Primer (Note 1)	
(e)	Epoxy Intermediate (Note 1)	
(f)	Aliphatic Urethane (Note 1)	

Note 1: These material requirements shall be according to the Special Provision for the Organic Zinc-Rich Paint System.

Submittals. At least 30 days prior to beginning field painting, the Contractor shall submit for the Engineer's review and acceptance, the following applicable plans, certifications and information for completing the field work. Field painting can not proceed until the submittals are accepted by the Engineer. Qualifications, certifications and QC plans for shop cleaning and painting shall be available for review by the QA Inspector.

- a) Contractor/Personnel Qualifications. Except for miscellaneous steel items such as bearings, side retainers, expansion joint devices, and other items allowed by the Engineer, or unless stated otherwise in the contract, the shop painting Contractors shall be certified to perform the work as follows: the shop painting Contractor shall possess AISC Sophisticated Paint Endorsement or SSPC-QP3 certification. Evidence of current qualifications shall be provided.

Personnel managing the shop and field Quality Control program(s) for this work shall possess a minimum classification as a National Association of Corrosion Engineers (NACE) Coating Inspector Technician, or shall provide evidence of successful inspection of 3 projects of similar or greater complexity and scope that have been completed in the last 2 years. Copies of the certification and/or experience shall be provided.

The personnel performing the QC tests for this work shall be trained in coatings inspection and the use of the testing instruments. Documentation of training shall be provided.

- b) Quality Control (QC) Program. The shop and field QC Programs shall identify the following; the instrumentation that will be used, a schedule of required measurements and observations, procedures for correcting unacceptable work, and procedures for improving surface preparation and painting quality as a result of quality control findings. The field program shall incorporate the IDOT Quality Control Daily Report form, as supplied by the Engineer.
- c) Field Cleaning and Painting Inspection Access Plan. The inspection access plan for use by Contractor QC personnel for ongoing inspections and by the Engineer during Quality Assurance (QA) observations.
- d) Surface Preparation/Painting Plan. The surface preparation/painting plan shall include the methods of surface preparation and type of equipment to be utilized for solvent cleaning, abrasive blast cleaning, washing, and power tool cleaning. The plan shall include the manufacturer's names of the materials that will be used, including Product

Data Sheets and Material Safety Data Sheets (MSDS).

A letter or written instructions from the coating manufacturer shall be included, indicating the required drying time for each coat at the minimum, normal, and maximum application temperatures before the coating can be exposed to temperatures or moisture conditions that are outside of the published application parameters.

Field Quality Control (QC) Inspections. The Contractor shall perform first line, in process QC inspections of each phase of the work. The Contractor shall implement the submitted and accepted QC Program to insure that the work accomplished complies with these specifications. The Contractor shall use the IDOT Quality Control Daily Report form supplied by the Engineer to record the results of quality control tests. The completed reports shall be turned into the Engineer before work resumes the following day.

The Contractor shall have available at the shop or on the field site, all of the necessary inspection and testing equipment. The equipment shall be available for the Engineer's use when requested.

Field Quality Assurance (QA) Observations. The Engineer will conduct QA observations of any or all phases of the work. The Engineer's observations in no way relieve the Contractor of the responsibility to provide all necessary daily QC inspections of his/her own and to comply with all requirements of this Specification.

The Engineer has the right to reject any work that was performed without adequate provision for QA observations.

The Engineer will issue a Non-Conformance Report when cleaning and painting work is found to be in violation of the specification requirements, and is not corrected to bring it into compliance before proceeding with the next phase of work.

Inspection Access and Lighting. The Contractor shall facilitate the Engineer's observations as required, including allowing ample time to view the work. The Contractor shall furnish, erect and move scaffolding or other mechanical equipment to permit close observation of all surfaces to be cleaned and painted. This equipment shall be provided during all phases of the work. Examples of acceptable access structures include:

- Mechanical lifting equipment, such as, scissor trucks, hydraulic booms, etc.
- Platforms suspended from the structure comprised of trusses or other stiff supporting members and including rails and kick boards.
- Simple catenary supports are permitted only if independent life lines for attaching a fall arrest system according to Occupational Safety and Health Administration (OSHA) regulations are provided.

When the surface to be inspected is more than 1.8 m (6 ft) above the ground or water surface, the Contractor shall provide the Engineer with a safety harness and a lifeline according to OSHA regulations. The lifeline and attachment shall not direct the fall into oncoming traffic. The Contractor shall provide a method of attaching the lifeline to the structure independent of the inspection facility or any support of the platform. When the inspection facility is more than 800 mm (2 1/2 ft) above the ground, the Contractor shall provide an approved means of access onto the platform.

The Contractor shall provide artificial lighting in areas where natural light is inadequate, as determined by the Engineer, to allow proper cleaning, inspection, and painting. Illumination for inspection shall be at least 325 LUX (30 foot candles). Illumination for cleaning and painting, including the working platforms, access, and entryways shall be at least 215 LUX (20 foot candles).

Construction Requirements. The Contractor shall be responsible for any damage caused to persons, vehicles, or property, except as indemnified by the Response Action Contractor Indemnification Act. Whenever the intended purposes of the protective devices are not being accomplished, as determined by the Engineer, work shall be immediately suspended until corrections are made. Painted surfaces damaged by any Contractor's operation shall be removed and repainted, as directed by the Engineer, at the Contractor's expense.

The Contractor shall comply with the provisions of the Illinois Environmental Protection Act. Paint drips, spills, and overspray are not permitted to escape into the air or onto any other surfaces or surrounding property not intended to be painted. Containment shall be used to control paint drips, spills, and overspray, and shall be dropped and all equipment secured when sustained wind speeds of 64 kph (40 mph) or greater occur, unless the containment design necessitates action at lower wind speeds. The contractor shall evaluate project-specific conditions to determine the specific type and extent of containment needed to control the paint emissions and shall submit a plan for containing or controlling paint debris (droplets, spills, overspray, etc.) to the Engineer for approval prior to starting the work. Approval shall not relieve the Contractor of their ultimate responsibility for controlling paint debris from escaping the work zone.

Surface and Weather Conditions. Surfaces to be painted after cleaning shall remain free of moisture and other contaminants. The Contractor shall control his/her operations to insure that dust, dirt, or moisture does not come in contact with surfaces cleaned or painted that day.

The surface temperature shall be at least 3°C (5°F) above the dew point during final surface preparation operations. The paint manufacturers' published literature shall be followed for specific temperature, dew point, and humidity restrictions during the application of each coat.

The Contractor shall monitor temperature, dew point, and humidity every 4 hours during surface preparation and coating application in the specific areas where the work is being performed. The frequency of monitoring shall increase if weather conditions are changing. The Engineer has the right to reject any work that was performed under unfavorable weather conditions. Rejected work shall be removed, recleaned, and repainted at the Contractor's expense.

Seasonal Restrictions on Field Cleaning and Painting. Field cleaning and painting work shall be accomplished between April 15 and October 31 unless authorized otherwise by the Engineer in writing.

Inorganic Zinc-rich/ Waterborne Acrylic Paint system. This system shall be for shop and field application of the coating system, shop application of the intermediate and top coats will not be allowed.

In the shop, all structural steel designated to be painted shall be given one coat of inorganic zinc rich primer. In the field, before the application of the intermediate coat, the prime coat and any newly installed fasteners shall be spot solvent cleaned per SSPC-SP 1 and all surfaces pressure washed to remove dirt, oil, lubricants, oxidation products, and foreign substances.

Washing shall involve the use of potable water at a pressure between 7 MPa (1000 psi) and 34 MPa (5000 psi) and according to "Low Pressure Water Cleaning" of SSPC-SP12. Paint spray equipment shall not be used to perform the water cleaning. All damaged shop primed areas shall then be spot cleaned per SSPC-SP3 and spot primed with aluminum epoxy mastic. The structural steel shall then receive one full intermediate coat and one full topcoat of waterborne acrylic paint.

- a) Paint drips, spills, and overspray must be controlled. If containment is used to control paint drips, spills, and overspray, the containment shall be dropped and all equipment secured when sustained wind speeds of 64 kph (40 mph) or greater occur. When the protective coverings need to be attached to the structure, they shall be attached by bolting, clamping, or similar means. Welding or drilling into the structure is prohibited unless approved by the Engineer in writing.
- b) Coating Dry Film Thickness (dft), measured according to SSPC-PA2:
Zinc Primer: 75 microns (3 mils) min., 150 microns (6 mils) max.
Epoxy Mastic: 125 microns (5 mils) min., 180 microns (7 mils) max.
Intermediate Coat: 50 microns (2 mils) min., 100 microns (4 mils) max.
Topcoat: 50 microns (2 mils) min., 100 microns (4 mils) max.

The total dry film thickness, excluding the spot areas touched up with epoxy mastic, shall be between 180 and 355 microns (7 and 14 mils).

- c) The pressure washing requirement above may be waived if the QC and QA Inspectors verify the primed surfaces have not been contaminated.
- d) Damage to the paint system shall be spot cleaned using SSPC-SP3. The cleaned areas shall be spot painted with a penetrating sealer as recommended by the manufacturer, which shall overlap onto the existing topcoat. Then the aluminum epoxy mastic shall be spot applied not to go beyond the area painted with the sealer. The acrylic intermediate and topcoat shall be spot applied to the mastic with at least a 150 mm (6 inch) overlap onto the existing topcoat.

Organic Zinc-Rich/ Epoxy/ Urethane Paint System. This system shall be for full shop application of the coating system, all contact surfaces shall be masked off prior to application of the intermediate and top coats.

Additional Surface Preparation. In addition to the requirements of Section 3.2.9 of the AASHTO/AWS D1.5M/D1.5:2002 Bridge Welding Code (breaking thermal cut corners of stress carrying members), rolled and thermal cut corners to be painted with organic zinc primer shall be broken if they are sharper than a 1.5 mm (1/16 in.) radius. Corners shall be broken by a single pass of a grinder or other suitable device at a 45° angle to each adjoining surface prior to final blast cleaning, so the resulting corner approximates a 1.5 mm (1/16 in.) or larger radius after blasting. Surface anomalies (burrs, fins, deformations) shall also be treated to meet this criteria before priming.

In the shop, all structural steel designated to be painted shall be given one coat of organic zinc rich primer. Before the application of the intermediate coat, the prime coat and any newly installed fasteners shall be spot solvent cleaned per SSPC-SP 1 and all surfaces pressure washed to remove dirt, oil, lubricants, oxidation products, and foreign substances. Washing shall involve the use of potable water at a pressure between 7 MPa (1000 psi) and 34 MPa

(5000 psi) and according to "Low Pressure Water Cleaning" of SSPC-SP12. Paint spray equipment shall not be used to perform the water cleaning. All damaged shop primed areas shall then be spot cleaned per SSPC-SP3, and the structural steel shall then receive one full intermediate coat of epoxy and one full topcoat of aliphatic urethane.

- (a) Paint drips, spills, and overspray must be controlled. If containment is used to control paint drips, spills, and overspray, the containment shall be dropped and all equipment secured when sustained wind speeds of 64 kph (40 mph) or greater occur. When the protective coverings need to be attached to the structure, they shall be attached by bolting, clamping, or similar means. Welding or drilling into the structure is prohibited unless approved by the Engineer in writing.
- (b) Coating Dry Film Thickness (dft), measured according to SSPC-PA2:
 - organic Zinc Primer: 75 microns (3 mils) min., 125 microns (5 mils) max.
 - Aluminum Epoxy Mastic: 125 microns (5 mils) min., 180 microns (7 mils) max.
 - Epoxy Intermediate Coat: 75 microns (3 mils) min., 150 microns (6 mils) max.
 - Aliphatic Urethane Top Coat: 65 microns (2.5 mils) min., 100 microns (4 mils) max.
- (c) The total dry film thickness, excluding the spot areas touched up with epoxy mastic, shall be between 215 and 375 microns (8.5 and 15 mils).
- (d) When specified on the plans or as requested by the Contractor, and approved by the Engineer, the epoxy intermediate and aliphatic urethane top coats shall be applied in the shop. All faying surfaces of field connections shall be masked off after priming and shall not receive the intermediate or top coats in the shop. The intermediate and top coats for field connections shall be applied, in the field, after erection of the structural steel is completed. The pressure washing requirement above may be waived if the QC and QA Inspectors verify the primed surfaces have not been contaminated.
- (e) Erection and handling damage to the shop applied system shall be spot cleaned using SSPC-SP3. The surrounding coating at each repair location shall be feathered for a minimum distance of 40 mm (1 1/2 in.) to achieve a smooth transition between the prepared areas and the existing coating. The existing coating in the feathered area shall be roughened to insure proper adhesion of the repair coats. The areas cleaned to bare metal shall be spot painted with aluminum epoxy mastic. The intermediate and finish coat shall be spot applied to with at least a 150 mm (6 inch) overlap onto the existing finish coat.

The paint manufacturer's product data sheets shall be available for QA review in the shop and submitted to the Engineer prior to start of field work and the requirements as outlined in the data sheets shall be followed.

Special Instructions.

Painting Date/System Code. At the completion of the work, the Contractor shall stencil in contrasting color paint the date of painting the bridge, the painting Contractors name, and the paint type code from the Structure Information and Procedure Manual for the system used. The letters shall be capitals, not less than 50 mm (2 in.) and not more than 75 mm (3 in.) in height.

The stencil shall contain the following wording "PAINTED BY (insert the name of the painting Contractor)" and shall show the month and year in which the painting was completed, followed by "CODE S" for the Inorganic Zinc/ Acrylic System and "CODE X" for the Organic Zinc/ Epoxy/

Urethane System, all stenciled on successive lines. This information shall be stenciled on the cover plate of a truss end post near the top of the railing, or on the outside face of an outside stringer near both ends of the bridge facing traffic, or at some equally visible surface designated by the Engineer.

Method of Measurement. Shop cleaning and painting new structures will not be measured for payment. Field cleaning and painting will not be measured for payment except when performed under a contract that contains a separate pay item for this work.

Basis of Payment. This work will be paid for according to Article 506.07.

SPECIAL PROVISION

MICROPILES

DESCRIPTION

This work shall consist of furnishing the equipment, labor and material to provide the machine drilled small diameter drilled grout piles at the locations shown on the Plans and/or as Specified herein.

GENERAL

A. Special Provision Includes:

1. Machine drilled small diameter drilled grout piles at the locations shown on the Plans and/or as specified herein.
2. Steel pipe for permanent external casing.
3. Excavation and disposal of all material encountered both wet and dry, to the minimum diameters shown on the Plans or as designed by the micropile Contractor.
4. Pumping, bailing, removal and disposal of water and mud from the excavations.
5. Removing of any abandoned utilities or other obstructions encountered.
6. Furnishing of all borings, field logs and soils samples required.
7. Required assistance to the independent Geotechnical Engineer in inspecting for suitable bearing strata, and arriving at the final micropile elevations.
8. Grout and reinforcement in the micropile excavation.
9. Observance of all safety precautions.
10. Providing information to the Engineer for preparation of proper records.
11. All other related and collateral work necessary to construct the drilled micropiles.

B. System Description

1. This specification, along with the drawings, covers the furnishing of all designs, materials, products, accessories, tools, equipment, services, transportation, labor and supervision, and manufacturing techniques required for testing and installation of micropiles and pile-top attachments.
2. The micropile contractor shall select the micropile type, size, layout and quantity, pile top attachment, installation means and methods, and determine the bond length and micropile diameter. The micropile contractor shall install a micropile

system that will provide the load capacities indicated on the Plans. The micropile load capacities and deflections shall be verified by testing as required and specified herein.

C. Design Requirements

1. The micropiles shall be designed to meet the specified loading and movement conditions as shown on the Plans and as specified herein. The calculations and drawings, prepared by a Structural Engineer licensed in the State of Illinois, are required from the contractor and shall be submitted to the Engineer for review and acceptance in accordance with the Submittals part of this Special Provision. The Plans show minimum requirements that must be provided. The micropile Contractor shall perform his own analysis, and where required by his analysis, he shall provide more than the minimums shown, but in no case shall he provide less than the minimum shown.
2. All micropiles shall be installed using a permanent steel casing. The permanent steel casing shall be fully supported along its length and shall be in intimate contact with the soil or encapsulated grout, which shall be in intimate contact with the soil.
3. The pile shall be formed by removing materials using non-vibratory and non-displacement methods to create a cased open, cylindrical hole in the ground, which is subsequently filled with grout and steel reinforcing.
4. The Contractor shall inspect the site to evaluate the conditions affecting the work. No claim for additional costs will be allowed because of lack of knowledge of any existing conditions discernible from observation at the site, adjoining property and available sources of information.
5. The Contractor shall monitor existing facilities during the course of this work. Monitoring shall include, but shall not be limited to, measurement of movement, photographs and videotapes. Any damage to existing facilities shall be repaired by the Contractor at no additional cost to the Owner.
6. The Contractor shall fully examine the existing site conditions to ensure that all equipment can operate without removing or relocating existing utilities, structures or structural members.
7. Permanent casing for external encasement may be incorporated into the permanent micropile and shall incorporate an additional 1/16 inch thickness of sacrificial steel for corrosion protection.
8. Corrosion protection of portions of the pile with reinforcing steel only (that is, without permanent casing) shall be:
 - a. Grout cover of 2 inches minimum unless bars are in tension.
 - b. Epoxy coating of the bars and couplers.
9. The allowable stresses at working load shall not exceed the following values:
 - a. For compression loads:
 1. The allowable stress on the cement grout shall be 33 percent of

the 28 day unconfined compressive strength. Provide a minimum 28 day unconfined compressive strength of 4000 psi for the cement grout.

2. The allowable stress on the steel reinforcing, including permanent steel casing, shall be 40 percent of the minimum specified yield strength.
 3. The maximum allowable stress on the permanent steel casing shall be 32,000 psi., to provide for strain compatibility at ultimate load.
 4. The reinforcing steel shall be designed to carry not less than forty (40) percent of the design compression load.
- b. For tension loads:
1. The allowable stress on the steel reinforcing shall be forty (40) percent of the minimum specified yield strength.
 2. The allowable stress on the cement grout shall be zero.
10. The ultimate structural capacity shall be determined as:
- a. Compression:
- $$P_{uc} = (0.85 \cdot f'_c \cdot A_{grout} + f_{ycasing} \cdot A_{casing} + f_{ybar} \cdot A_{bar})$$
- where:
- f'_c = unconfined compressive strength grout
 A_{grout} = area of grout
 $f_{ycasing}$ = yield strength of casing up to eighty (80) ksi
 A_{casing} = area of steel casing (at threaded joints if applicable)
 f_{ybar} = yield strength of rebar up to eighty (80) ksi
 A_{bar} = area of rebar
- 1) The maximum useable strength of the steel of eighty (80) ksi is based on the typical ultimate concrete strain of 0.003 (29000 ksi * 0.003 = 87 ksi). Eighty (80) ksi is also the maximum steel strength used in ACI 318.
- b. Tension:
- $$P_{ut} = (f_{ycasing} \cdot A_{casing} + f_{ybar} \cdot A_{bar})$$
- where:
- $f_{ycasing}$ = yield strength of casing
 A_{casing} = area of steel casing (at threaded joints if applicable)
 f_{ybar} = yield strength of rebar
 A_{bar} = area of rebar
11. The micropile top attachment shall effectively distribute the design load to the concrete footing, such that the concrete bearing stress does not exceed that allowed by the ACI Building Code and the bending stress in the steel plates does not exceed that allowed by the AISC Allowable stresses for steel members.

D. Qualifications of Micropile Contractor

1. The specialist micropile foundation contractor shall have documented experience in all aspects of micropile design and construction, and shall furnish all necessary plant, materials, skilled labor and supervision to carry out the contract.
2. The micropile contractor shall provide the Engineer details of five similar

contracts including client contacts. Acceptable prequalified specialty contractors capable of performing this work are Nicholson Construction Company and Hayward Baker, Inc.

3. The superintendent for the micropile contractor shall have completed at least five micropile projects.
4. The micropile contractor shall not sublet the whole or any part of this contract without the express permission in writing of the Owner.

E. Ground Conditions

1. The soil boring logs shown on the Plans were obtained in 1956 and set forth the subsurface ground conditions at the location of the test boring at the time the borings were obtained. The soil boring information is being made available for the convenience of the prospective bidders; however, the Contractor shall plan his work based on his own independent subsurface exploration or knowledge of such.
2. The technical data contained in such soil boring logs, reports and drawings is available for the Contractor's use, but such boring logs, reports and drawings are not Contract Documents. The Contractor may not rely upon or make any claim against Owner, Engineer, or any of the Engineer's Consultants with respect to:
 - a. The completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - b. Other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - c. Any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

F. Pre-Installation Meeting

Convene one week prior to commencing Work of this Section to review installation procedures with Owners Representative and independent Geotechnical Engineer performing monitoring and inspection of the micropile installation.

G. References

1. American Society for Testing and Materials, (ASTM):
 - a. ASTM A36 - Specification for Structural Steel.
 - b. ASTM A615 - Specification for Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
 - c. ASTM A722 - Specification for Uncoated High Strength Bar for Prestressing Concrete.
 - d. ASTM C33 - Specification for Concrete Aggregates.
 - e. ASTM C144 - Specification for Aggregate for Masonry Mortar.
 - f. ASTM C150 - Specification for Portland Cement.
 - g. ASTM C494 - Specification for Chemical Admixtures for concrete.

- h. ASTM D3689 - Standard Test Method for Individual Piles Under Static Axial Tension Load.
- 2. American Welding Society, (AWS):
 - a. AWS D.1.1 - Structural Welding Code - Steel.
 - b. AWS D.1.4 - Structural Welding Code - Reinforcing Steel.
- 3. American Association of State Highway and Transportation Officials, (AASHTO):
 - a. AASHTO T26 - Quality of water to be used in concrete.
- 4. American Petroleum Institute, (API):
 - a. N80, Steel Pipe

MATERIALS

Materials shall meet the requirements of the Standard Specifications, except as modified herein.

A. Water

- 1. Water for mixing grout shall be potable or shall be tested for use with the cement and results submitted for approval.

B. Admixtures

- 1. Admixtures shall conform to the requirements of ASTM C 494. Admixtures which control bleed, improve flowability, reduce water content and retard set may be used in the grout subject to the review and acceptance of the Engineer. Expansive admixtures shall only be added to the grout used for filling sealed encapsulations. Accelerators will not be permitted. Admixtures shall be compatible with the grout and mixed in accordance with the manufacturer's recommendations. Their use will only be permitted after appropriate field tests on fluid and set grout properties.

C. Cement

- 1. All cement shall be Portland cement conforming to ASTM C150, Type I and shall be the product of one manufacturer.

D. Fillers

- 1. Inert fillers such as sand may be used in the grout in special situations, i.e. presence of large voids in the ground or when grout take and travel are to be limited.

E. Reinforcement

- 1. All reinforcing steel shall be deformed bars in accordance with ASTM A 615, Grade 60, or Grade 75, or ASTM A722 Grade 150.
- 2. Bar couplers, if required, shall develop 125 percent of the ultimate tensile and compressive strength of the bars.

F. Pipe/Casing

1. Provide steel casing conforming to API N80 (80 ksi minimum yield strength). Drill casing shall be of the flush joint type, and shall be of the minimum diameter, length and wall thickness indicated on the Plans. If a cutting shoe is used, the cutting shoe diameter shall not exceed the outer diameter of the casing plus 0.25 inch, unless otherwise approved by the Engineer.

G. Plates And Shapes

1. Structural steel plates and shapes for pile top attachments shall conform to ASTM A36 or A572 Grade 50.

H. Centralizers

1. Centralizers shall be fabricated from plastic. Wood or steel shall not be used.

SUBMITTALS

A. The Micropile Contractor shall submit his qualifications in accordance with the requirements of this Special Provision.

B. The micropile Contractor shall prepare shop drawings and relevant structural design calculations for the micropile system for submittal to the Engineer for review and acceptance. A Professional Structural Engineer licensed in the State of Illinois shall seal and sign the drawings and calculations prepared under his supervision. The Contractor shall allow the Engineer three (3) weeks to review the shop drawing submittal after a complete set has been received. Work shall not begin until the appropriate submittals have been received, reviewed, and accepted in writing by the Engineer. Review by the Engineer does not constitute a guarantee of acceptable pile installations. Acceptable installation of piles as shown on the Plans is the responsibility of the Contractor.

C. The shop drawings and design calculations submittal(s) shall include micropile details showing:

1. Micropile design load.
2. Type and size of permanent casing and reinforcing steel.
3. Minimum total bond length.
4. Total micropile length.
5. Micropile top attachment.
6. Footing/ pile cap design.
7. Micropile numbering system for records.
8. Grout mix designs, and the procedure for placing the grout. Obtain documentation from an independent laboratory that the grout mix design meets the required strength.
9. Detailed description of the construction procedure and sequence.
10. Detailed plans for the method proposed for the testing of the micropiles prior to beginning the tests. This shall include all necessary drawings and details to clearly describe the method.
11. Procedures for advancing through soils, boulders and other obstructions at no additional cost to the Owner.

12. Methods to be used to control and verify pile positions and alignments.
 13. Procedures for control and removal of all spoil.
 14. Shop Drawings that show that the specified work can be performed under limited headroom conditions and as close to obstructions as site conditions warrant to install the piles at the locations shown on the Plans.
 15. Procedures such as temporary casing to maintain an open hole during drilling, the method to assure that the drilled hole has not collapsed and has the minimum required diameter before grouting and methods to be used to measure the minimum required diameter.
 16. Methods to flush the drilled hole and methods and equipment for measuring volumes of grout placed in each pile.
 17. Details of placement, splicing and centering devices for steel reinforcing.
 18. Test pile, test method and equipment, load type and calibration equipment.
- D. Welding procedures and qualifications for welders and tackers as specified in AWS D1.1 for casing steel and AWS D1.4 for reinforcing steel.
- E. Certified mill test reports for reinforcing steel and permanent steel casing.
- F. Project Record Documents:
1. Construction Records Submittals:
 - a. Certified mill test reports, properly marked, for the reinforcing steel showing the ultimate strength, yield strength, elongation, and material properties.
 - b. Test results for permanent casing.
 - c. Calibration reports for each test jack, pressure gauge and master pressure gauge to be used. The calibration tests shall have been performed within 60 calendar days of the date submitted.
 2. Installation Records:
 - a. The micropile contractor shall prepare and submit to the Engineer installation records for each pile installed. The records shall be submitted within 24 hours after installation is completed for the pile. The records shall include the following minimum information:
 - 1.) Pile drilling duration.
 - 2.) Final tip elevation.
 - 3.) Cut-off elevation.
 - 4.) Rated load capacities.
 - 5.) Description of unusual installation behavior or conditions.
 - 6.) Pressure grouted length.
 - 7.) Grout pressures attained.
 - 8.) Grout quantities pumped.
 - 9.) Pile materials and dimensions.
 - 10.) Micropile test records, analysis and details for test piles.

INSTALLATION

A. Installation

1. The micropile contractor shall select the grouting procedure, and the grouting pressure used for the installation of the micropiles. Perform drilling for the pile installation by rotating or oscillating the drill casing and applying a static vertical

load. Advance the hole using duplex drilling and reverse circulation within the drill casing. Perform drilling in such a manner as to prevent collapse of the hole and to prevent the soil at the bottom of the hole from flowing into the hole. Duplex drilling is a method of progressing and cleaning out a hole for installing a bored-in pile in which the outer casing is progressed simultaneously with an inner drill rod string. The casing is cleaned using reverse circulation. Intimate contact between the soil and the outer casing must be maintained during drilling.

2. Control the procedures and operations so as not to cause undermining, disturbance or settlement to the adjacent structures or utilities. If any disturbance occurs, halt operations and modify the equipment and/or procedures so that no further disturbance occurs. Engineer's review of modified equipment and or procedures will be required. Repair any disturbance to the satisfaction of the Owner and at no additional cost to the Owner.
3. Maintain the fluid level inside the hole above the ground water table at all times during installation and cleaning out. Monitor and record the rate of fluid flow used to advance the holes.
4. Do not advance a hole, pressure grout, or post grout near a completed drilled-in hole when such actions may have a harmful effect on the completed unit.
5. Dispose of waste and spoil in an appropriate manner. Disposal of waste and spoil in local streets, sewers and/or waterways is not permitted.
6. If obstructions are encountered during drilling for a pile, progress through them by means of coring, a tri-cone roller bit or appropriate timber cutting bit. Use of drop type impact hammers and blasting are not permitted.
7. The drilling equipment and methods must provide an open borehole to the defined nominal diameter, full length, prior to placing grout and reinforcement.
8. Hole-stabilizing drilling fluid may be used if degradable with time or contact by grout as long as pressure grouting length and pressure is not less than that of the test piles. Bentonite based muds shall not be used unless proven by load testing.
9. Centralizers shall be provided on central reinforcement. The upper most centralizer shall be located 5 feet maximum from the top of the central reinforcement. Centralizers shall permit the free flow of grout without misalignment of the reinforcement.
10. The central reinforcement steel with centralizers shall be lowered into the stabilized drill holes to the desired depth without difficulty. Partially inserted reinforcing bars shall not be driven or forced into the hole.
11. The grout should be injected beginning at the lower end of the drilled borehole. The pipe casing shall be filled with a 4000 psi minimum compressive strength grout without voids from bottom to top of micropile.
12. The Contractor shall check pile top elevations and adjust all installed micropiles

to the planned elevations.

B. Grouting

1. Contractor shall have means and methods of measuring the grout quality, quantity and pumping pressure during the grouting operations. Contractor shall keep records showing the quantities, test data, and grout pressures for inspection by the Engineer.
2. The Contractor shall use a stable neat cement grout or a sand cement grout with a minimum 28 day unconfined compressive strength of 4000 psi. Admixtures, if used, shall be mixed in accordance with manufacturer's recommendations.
3. The grouting equipment shall produce a colloiddially mixed grout free of lumps and undispersed cement. The pump shall be equipped with a pressure gauge to monitor grout pressures. The pressure gauge shall be capable of measuring pressures of twice the actual grout pressures used. The grouting equipment shall be sized to enable the grout to be pumped in one continuous operation. The mixer shall be capable of continuous agitation of the grout. A second pressure gauge shall be placed at the point of injection.
4. The grout pressures and grout takes shall be controlled to prevent excessive heave.
5. Upon completion of grouting, the grout tube may remain in the hole, but it shall be filled with grout.
6. Grout within the micropiles shall be allowed to attain adequate strength prior to load testing.
7. If the contractor elects to use a post-grouting system, all relevant details shall be submitted.

C. Pile Splices

1. Pile splices shall be constructed to develop the required design strength of the pile section and without eccentricity or kink angle between the axes of the two lengths spliced.

D. Drilling Tolerances

1. Tolerances from deviations from design position, orientation, and elevations:
 - a. Centerline of piling shall not be more than 1 inch from indicated plan position.
 - b. Pile alignment shall be within 1 percent of design alignment.
 - c. Top elevation of pile shall be within 1 inch of the design vertical elevation.
2. Furnish corrective design and construction required to accommodate deviations exceeding specified tolerances, including replacement of micropiles, when necessary.

E. Field Quality Control

1. Engage Surveyor, licensed in the State of Illinois, to perform survey work specified in this section, including survey of design and actual micropile locations, and plumbness.
2. Monitor benchmarks and survey control points for displacement during construction. Correct or replace displaced survey controls. Verify previous measurements relying on displaced controls.
3. Submit survey information as the Work progresses, to expedite construction operations.
4. Perform load tests to requirements of ASTM D3689.
5. Accepted test piles may not be used in the Work.
6. Contractor Supervision: Provide supervision of each phase of drilled micropile construction. Check each drilled micropile or shaft for required depth, clean up, workmanship, and for tolerance requirements before grout is placed.
7. Observation: A Professional Geotechnical Engineer hired by the Contractor, licensed in the State of Illinois, from an independent testing firm, shall observe drilling and grouting of each micropile, including the test pile.
8. Unacceptable micropiles: Micropiles that fail, are placed out of position, are below elevations, are damaged or are not approved by Engineer.
9. Provide additional micropiles or replace micropiles failing to conform to specified requirements.
10. Perform tests on grout to ensure compliance with these specifications.

F. Monitoring and Inspection

1. A Professional Geotechnical Engineer hired by the Contractor, licensed in the State of Illinois, from an independent testing firm, shall monitor, observe and document the Work including:
 - a. Verification of specified tolerances.
 - b. Verification of conformance to specified procedures and results of the Work.
2. The independent Professional Geotechnical Engineer shall analyze monitoring results and submit to Engineer within the next day. The Geotechnical Engineer shall develop reports to present information tabularly and graphically.
3. Support materials at side and bottom of pile during construction. Fill spaces between casing and sides of hole, or other areas where loss of material occurs, with grout or other stable material, to prevent movement of surrounding soil.
4. When ground loss occurs in hole during drilling, immediately notify Engineer and

take steps necessary to minimize further loss of material.

5. When undue settlement is evidenced at any time, immediately notify Engineer.

METHOD OF MEASUREMENT

The furnishing and drilling of the micropiles at the locations and to the diameters, capacities, and details shown on the Plans and specified herein and based on the diameter, lengths and details determined by the micropile Contractor's design, but not less than the minimum diameters and lengths shown in the Plans. Any other work and materials required for and incidental to a complete installation shall not be measured for payment. The contract unit prices for the above items will be full and complete payment for providing all design, materials, labor, equipment, and incidentals to complete the work. No additional compensation will be paid for mobilization, demobilization, unexpected obstructions during drilling or monitoring existing facilities.

BASIS OF PAYMENT

Micropiles will be paid for at the contract unit price for each for "MICROPILES."

SPECIAL PROVISION
MICROPILE TENSION TEST PILE

DESCRIPTION

This work shall consist of furnishing the equipment, labor and material to perform a micropile tension test at the location shown on the Plans and as specified herein.

MATERIALS

Equipment Type Load Carrying Device, Load, and Instrumentation: Conform to ASTM D3689 Standard Test Method for Piles Under Static Axial Tensile Load of same type as will be used for pile placement of the Work.

SUBMITTALS

Submit test method and equipment, load type, calibration equipment.

Submit Reports covering items listed under, Part J of this Special Provision, Field Quality, Control Monitoring and Inspection.

INSTALLATION

- A. Perform load test in accordance with ASTM D3689 except a modified herein.
- B. Same diameter and type as specified for other piling placed in same manner.
- C. Verification Load Tests: Pile load tests shall be performed to verify the load carrying capacity of the pile system and the construction procedures prior to installing production piles. Test piles with reaction piles or anchors shall be constructed immediately prior to the commencement of the installation of the production micropiles. Each test pile shall be loaded to two (2) times the design load capacity indicated on the Plans.
- D. Before any portion of the test load is applied, allow the pile to develop a compressive strength of 4000 psi.
- E. These micropile load test results shall verify the contractor's design and will be reviewed and accepted by the Engineer prior to beginning production micropiles. The tests shall be performed at a location to be determined by the Engineer or as shown on the Plans.
 - 1. The Contractor shall submit for review and acceptance the micropile load testing program. The testing program submittal shall be provided minimum two weeks prior to starting the load testing. This micropile verification load testing program shall indicate the minimum following information:
 - a. Type and accuracy of apparatus for measuring load.
 - b. Type and accuracy of apparatus for applying load.
 - c. Type and accuracy of apparatus for measuring the pile deformation.
 - d. Type and capacity of reaction load system.
 - e. Hydraulic jack calibration report.

2. The drilling and grouting methods, casing diameter, and depth of embedment of the test pile shall be identical to the production piles.
3. The tested micropiles shall be loaded to 200 percent of the compression and/or tension design load (DL). The jack shall be positioned at the beginning of the test such that the unloading and repositioning of the jack during the test will not be required.
4. Axial pile load tests shall be made by loading the micropile in the following steps and recording the head movement at each step:

<u>Load</u>	<u>Hold Time (Minutes)</u>
0	0
25% DL	5
50% DL	5
0	5
25% DL	1
50% DL	1
75% DL	5
100% DL	5
0	5
75% DL	1
100% DL	1
125% DL	5
150% DL	60 (creep test load hold)
0	5
100% DL	1
125% DL	1
150% DL	1
175% DL	5
200% DL	10

5. Measurement of pile movement shall be obtained at each increment. The load hold period shall start as soon as the test load is applied and the pile movement, with respect to a fixed reference, shall be measured and recorded at 1 minute, 2, 3, 4, 5, and 10 minutes (for the 200 percent design load only) and 1, 2, 3, 4, 5, 6, 10, 20, 30, 50, and 60 minutes for the Creep Test (150 percent design load).
6. The pile shall sustain the design loads (100 percent design loads) with no more than 1/8 inch total vertical movement at the top of the pile. The slope of the load versus deflection curve shall be less than 0.0125 inches/ton.
7. The micropile contractor's engineer will give the Engineer written confirmation concerning micropile construction and the results of the load test within seven working days after the completion of the preproduction tests. This written confirmation will either confirm the bond lengths as shown in the drawings for micropiles or reject the piles based upon the results of the verification tests.

8. When a micropile fails, the Contractor shall modify the design, the construction procedure, or both. These modifications include, but are not limited to installing replacement micropiles, modifying the installation methods, increasing the bond length, regrouting via preplaced re-grout tubes, or changing the micropile type. Any modification which requires changes to the structure shall have prior review and acceptance by the Engineer. Any modifications of design or construction procedures shall be at the Contractor's expense and shall be subject to the approval of the Engineer.
 9. When tested pile does not conform to requirements, perform additional testing of another pile at no additional cost to the Owner.
- F. Verify that site conditions will support cribbing and load for testing purposes.
 - G. Establish stable working elevation for test equipment.
 - H. Cut test piles off 1 ft below the underside of structures, unless otherwise directed by Engineer.
 - I. Monitor test pile placement and elevations under direct supervision of a Professional Land Survey Engineer experienced in design of this Work and licensed in the State of Illinois.
 - J. Field Quality Control Monitoring and Inspection:
 1. Engage a Professional Geotechnical Engineer hired by the Contractor licensed in the State of Illinois, from an independent inspection firm to observe and document drilling, grouting, procedures, test method, specified tolerances and results. The independent Professional Geotechnical Engineer shall analyze monitoring results and submit to Engineer within the next day and he shall develop reports to present information tabularly and graphically.
 2. Document test equipment used, method of calibration and recording, test results, recommendations or modifications of piling method used.
 3. Accurately record actual dimensions and location of tested piles and movement or distortion caused by testing.
 - K. Remove test and temporary load equipment from site.

METHOD OF MEASUREMENT

Furnishing and drilling of the micropile tension test pile at the location shown on the Plans, or as approved by the Engineer, and as specified herein, including set-up and removal of test equipment, applying test and load, test equipment, monitoring and reporting results. Any other work and materials required for and incidental to a complete micropile tension pile test shall not be measured for payment.

The contract unit prices for the above items will be full and complete payment for providing all design, materials, labor, equipment, and incidentals to complete the work. No additional compensation will be paid for mobilization, demobilization, unexpected obstructions during

drilling or monitoring existing facilities.

BASIS OF PAYMENT

Micropile tension test pile will be paid for at the Contract unit price for each "MICROPILE TENSION TEST PILE".

SPECIAL PROVISION
WHEELS PUMP STATION STRUCTURE

DESCRIPTION

This work shall consist of providing the materials and labor to provide and install the precast and cast-in-place concrete manhole structure in accordance with the details shown in the plans, in accordance with this Special Provision and in accordance with Section 602 of the Standard Specifications and ASTM C478, Standard Specification for Precast Reinforced Concrete Manhole Sections except as modified herein.

This work shall also include all excavation, backfilling, dewatering and temporary earth retention systems, whether or not shown on the drawings but required to protect existing structures and utilities, in accordance with the Standard Specifications.

GENERAL

The base slab shall have a projection beyond the outside diameter of the manhole to resist buoyancy in accordance with the details shown in the plans and shall be cast monolithic with the lower riser section with reinforcing bar dowels from the base up into the lower riser section of the manhole.

The top slab may be precast or cast-in-place concrete.

MATERIALS

Provide materials in accordance with Section 602 of the Standard Specifications.

SUBMITTALS

Shop drawings for reinforcing and all materials.

Shop drawings for precast manhole riser sections as evidence of compliance with the requirements of this Special Provision.

Provide minimum 3-inch sand cushion below pump station base slab.

Maintain excavation dewatering to 2 feet below bottom of excavation until top slab and all backfill around structure is in place.

INSTALLATION

Install in accordance with Section 602 of the Standard Specifications.

BASIS OF PAYMENT

This work will be paid for at the contract lump sum price for the "WHEELS PUMP STATION STRUCTURE" which price will be payment in full for all labor, materials, transportation, handling, and any incidentals necessary to furnish and install all materials as specified herein.

Excavation, backfilling, dewatering and temporary earth retention systems will not be measured for payment, but are included in the contract lump sum price for the "WHEELS PUMP STATION STRUCTURE". The pumps, pump controls, piping and appurtenances will not be paid for as part of this pay item, but will be paid for separately.

SPECIAL PROVISION

MINER STREET PUMP STATION STRUCTURE

DESCRIPTION

This work shall consist of designing and providing the materials and labor to provide and install the precast manhole structure in accordance with the details shown in the plans, in accordance with this Special Provision and in accordance with Section 602 of the Standard Specifications and ASTM C478, Standard Specification for Precast Reinforced Concrete Manhole Sections except as modified herein.

This work shall also include all structure design, excavation, backfilling, dewatering and temporary earth retention systems, whether or not shown on the drawings but required to protect existing structures and utilities, in accordance with the Standard Specifications.

GENERAL

The base slab shall have a projection beyond the outside diameter of the manhole to resist buoyancy in accordance with the details shown in the plans and shall be cast monolithic with the lower riser section with reinforcing bar dowels from the base up into the lower riser section of the manhole.

The top slab may be precast or cast-in-place concrete.

The Contractor's Illinois licensed Structural Engineer shall design the Miner Street Pump Station and he shall submit sealed and signed structural calculations and drawings for review and approval. The design shall conform to the following minimum requirements:

- A. Riser sections and seals shall be precast concrete in accordance with Section 602 of the Standard Specifications and the Special Provision for the Miner Street Pump Station
- B. Reinforcement bars shall be epoxy coated.
- C. Base slab shall be minimum 9'-0" in diameter, minimum 10" thick, with minimum #5@12" top and bottom each way, with footing projections beyond outside diameter of risers for buoyancy.
- D. If base slab is precast monolithic with the lower riser section, provide minimum #5@12" dowels from the bottom of the base slab into the outside face of the lower riser section.
- E. Pump Station shall be designed for a high ground water table at top of pump station top slab.
- F. Pump Station top slab shall be designed for an H-20 truck loading

Provide minimum 3-inch sand cushion below pump station base slab.

Maintain excavation dewatering to 2 feet below bottom of excavation until top slab and all backfill around structure is in place.

MATERIALS

Provide materials in accordance with Section 602 of the Standard Specifications.

SUBMITTALS

Shop drawings for reinforcing and all materials.

Shop drawings for pump station top and base slabs and precast manhole riser sections as evidence of compliance with the requirements of this Special Provision.

INSTALLATION

Install in accordance with Section 602 of the Standard Specifications.

BASIS OF PAYMENT

This work will be paid for at the contract lump sum price for the "MINER STREET PUMP STATION STRUCTURE" which price will be payment in full for all labor, materials, transportation, handling, and any incidentals necessary to design structure and furnish and install all materials as specified herein. Excavation, backfilling, dewatering and temporary earth retention systems will not be measured for payment, but are included in the contract lump sum price for the "MINER STREET PUMP STATION STRUCTURE". The pumps, pump controls, piping and appurtenances will not be paid for as part of this pay item, but will be paid for separately.

SPECIAL PROVISION

ARCHITECTURAL CONCRETE FORM LINER

DESCRIPTION

This work shall consist of providing the materials and labor to provide and install the form liner for a finished textured surface for the concrete faced flood wall and retaining walls in accordance with the details shown in the plans and in this Special Provision. Forms and form liners shall conform to Section 503 of the Standard Specifications and the applicable portions of ACI-347R, Guide to Formwork for Concrete and ACI-303R, Guide to Cast-In-Place Architectural Concrete, published by the American Concrete Institute.

MATERIALS

Form liner shall be single or multiple use Architectural Concrete Form Liner, Dry Stack Random Stone, Style No. 328, Ultra-Cast Grade, urethane liner as manufactured by Greenstreak Plastic Products Co., St. Louis, Missouri, or approved equal. Deliver, store and handle in accordance with manufacturer's recommendations. Acceptable manufacturers are the following of an approved equal:

1. Greenstreak, Inc.
3400 Tree Court Industrial Boulevard
St. Louis, Missouri 63122
1 (800) 325-9504
2. Scott Systems, Inc.
1788 Helena Street
Aurora, Colorado 80011
1 (303) 341-1400
www.Scottsystem.com
3. Symons Corporation
200 East Touhy Avenue
Des Plains, Illinois 60018
1 (847) 298-3200
www.symons.com

Form liner accessories including, but not limited to, fasteners, sealants, rustication and backup strips, form release agents and sealers shall be provided by form liner manufacturer.

Form release agents shall be according to the recommendations of the form liner manufacturer and must be applied the same day as concrete placement. The form release agent shall be compatible with all curing agents, admixtures and finished coating systems.

Deliver, store and handle in accordance with manufacturer's recommendations.

SUBMITTALS

Manufacturer's installation instructions and Product Data which indicates compliance with

Specifications.

Shop Drawings indicating form liner layout and termination details. Indicate backup, rustication, reveal, and chamfer strip locations. Include jointing, form tie locations and pattern of placement. Contractor shall be responsible for design of formwork and back-up form liner for structural stability and sufficiency. Engineer shall review for aesthetics and incorporate changes into shop drawing resubmittal.

Submit two (2) 48-inch square samples of form liner pattern specified and two (2) 48-inch square samples of finished concrete pieces.

Compliance certification by release agent manufacturer for local regulations controlling VOC's.

MOCK-UP

For quality assurance, construct minimum 15 foot long mock-up to reflect actual job site conditions using actual job site materials, methods and workmanship for Engineer review and approval minimum 7 days prior to construction at a location directed by the Engineer.

Demonstrate patching and repair procedures for spalled concrete and voids caused by honeycombing and bugholes.

Incorporate formwork accessories and minimum one vertical and one horizontal form liner joint.

Unacceptable mock-ups will be cause for rejection and will require construction of additional mock-ups at no additional cost to the Owner.

Accepted mock-up will be the standard by which remaining work will be evaluated for technical and aesthetic merit. Accepted mock-up is a prerequisite to beginning job formwork. Submit variations from mock-up materials or techniques for approval prior to use.

INSTALLATION

The forms shall be constructed so that the completed concrete structures conform to the shape, lines and dimensions of the members as shown on the Plans. The forms shall be properly braced or tied together to maintain position and shape. Forms shall be sufficiently tight to prevent leakage of concrete. All form liner joints and tie holes shall be sealed as recommended by the form liner manufacturer and approved by the Engineer.

Form liner mock-up, storage, handling, accessories, fabrication, preparation and installation to comply with manufacturer's written instructions and recommendation. Manufacturer shall provide a Job Site Guide with the above listed form liner that the Contractor must follow.

The temperature differential between the form liner and concrete shall not be greater than 9°F for normal ambient conditions. During cold weather, the form liner must be applied in the same ambient conditions as concrete placement is to take place. In ambient conditions above 90°F, form liner attachment must allow for thermal expansion.

Variations in dimensions for the cast-in-place concrete with a textured surface shall be within the following tolerances: the width and depth of textured joints shall be within $\pm 1/8$ inch, the

location of the joints shall be within $\pm 1/2$ inch; the maximum variation of a joint from a straight line shall be $\pm 1/4$ inch in 10 feet.

External surfaces of all concrete shall be thoroughly worked during the operations of placing in such a manner as to work the mortar against the forms to produce a smooth finish free of honeycomb and with a minimum of water and air pockets.

Depressions resulting from the removal of ties and holes left by attachments to rod or bolt anchorage's shall be carefully and neatly pointed with a color matched, non-shrink patching grout, as described below.

Color Matched, Non-Shrink Patching Grout

Patching grout shall be prepackaged mixture of Portland and Hydraulic cements with shrinkage compensating admixtures, graded sands and polymer modifiers. Samples of the grout shall be prepared utilizing gray and white cement in various ratios. After the samples have dried, the cement ratio producing a color that most closely matches the area of textured surface to be repaired shall be utilized for the repairs, subject to the Engineer's approval.

Patching grout shall also meet the following requirements:

Flexural Strength	200 psi
Bond Strength	1300 psi

Air pockets larger than 1 inch in diameter in any form liner textured surface shall be repaired. Honey combed areas larger than 2 inches in diameter (surface area) or 1/2 inch in depth shall be chipped out by the Contractor and inspected by the Engineer before being repaired. Repaired areas less than 6 inches in diameter shall be rubbed as described under Patch Rubbed to Match below. Larger areas shall be finished as described under Formed Patch.

a. Formed Patch

Grind patch area to an even plane with surface laitance removed. Color match grout as described in "Color-matched, non-shrink patching grout" above before application. Cast grout into form liner, matching area to be repaired, strike off at nearest reveal or joint of form liner. Brace form liner. Cure for 48 hours and remove form. Butter back edges of patch and repair as noted in "Patch Rubbed to Match" below.

b. Patch Rubbed to Match

Surface requiring a rubbed finish shall be thoroughly wet with a brush and rubbed with a No. 16 carborundum stone, or an abrasive of equal quality, bringing the surface to a paste. The rubbing shall be continued sufficiently to produce a surface matching the surrounding textured surface. The finish rubbing shall continue until the entire surface is of a smooth texture and uniform in color.

Patching material shall first be color matched, as described in "Color matched, non-shrink patching grout" above before application.

Fins and form lines, which project more than 1/8 inch, shall be removed by chipping. If hand tools are not sufficient, a No. 16 carborundum stone or equal abrasive may be used.

When the surface of concrete that will be exposed to view shows a film of oil left from an excess of oil on the forms, or the concrete is oil-stained, or is otherwise not of uniform color, the Engineer may require the Contractor to patch as described above.

The Contractor shall repair all deviations from the approved finish to the satisfaction of the Engineer at no additional cost to the Owner.

The Contractor shall notify the Engineer at least 48 hours prior to placing concrete. Concrete shall not be placed until the Engineer has inspected the formwork and the placement of reinforcing bars and embedded electrical conduit for compliance with the plans and the approved shop drawings.

METHOD OF MEASUREMENT

Architectural form liner finish will be measured in place and the area computed in square feet. The dimensions used to compute the area of surface placed with the form liner will be those dimensions indicated on the plan, or as directed by the Engineer, of the outline of the plane area. Measurement will not be on actual surface area of the entire wall.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per square foot for "Architectural Concrete Form Liner".

SPECIAL PROVISION

FORM TIES

DESCRIPTION

This work shall consist of providing the material and labor to provide and install form ties in accordance with this Special Provision.

MATERIALS

Form Ties: Snap-off type, metal, fixed length, cone type, with waterproofing washer at mid-length of form tie, 1-1/2 inch back break dimension, free of defects that could leave holes larger than 1 inch in concrete surface.

SUBMITTALS

Submit manufacturer, product data and installation requirements.

INSTALLATION

Use sufficient strength and sufficient quantity to prevent spreading of forms.

Place ties at least 1-1/2 inch away from finished surface of concrete.

Leave inner rods in concrete when forms are stripped.

Space form ties equidistant, symmetrical and aligned vertically and horizontally unless otherwise shown on the Plans.

BASIS OF PAYMENT

This work will not be measured for payment but is included in the contract unit price for "CONCRETE STRUCTURES".

SPECIAL PROVISION

WATERSTOPS

DESCRIPTION

This work shall consist of providing the material and labor to provide and install waterstops in concrete structures at locations specified in the plans, in accordance with the details shown in the Plans and in accordance with this Special Provision.

MATERIALS

Waterstops: Manufactured from virgin polyvinyl chloride, sizes as shown on the drawings, minimum 1750 psi (12 MPa) tensile strength, minus 35 degrees F (minus 37 degrees C) to plus 175 degrees F (plus 79 degrees C) working temperature range, 6 inch (152 mm) wide, maximum possible lengths, ribbed profile, preformed corner and intersection sections, splicing and jointing with an electric splicing tool. Waterstop shall have factory applied hog rings installed in holes the same size or smaller than the diameter of the wire used to form the hog ring. Hog rings shall be the manufacturer's standard design.

Waterstops shall be as manufactured by Greenstreak Plastics Products Co., St Louis, Missouri, or approved equal.

SUBMITTALS

Submit manufacturer, product data and installation requirements.

INSTALLATION

Install continuous around corners and intersections without displacing reinforcement. Heat seal joints watertight with an electric splicing tool. Do not bend waterstops.

Install at locations indicated and anchor waterstops to formwork or reinforcing steel at a maximum spacing of 16-inches to prevent dislocation while placing concrete.

Install at locations indicated and in the following locations:

All horizontal and vertical construction, contraction and expansion joints in walls with one surface in contact with soil and the opposite surface dry and exposed.

All horizontal and vertical construction, contraction and expansion joints in walls with one surface in contact with liquid and the opposite surface dry and exposed.

All horizontal and vertical construction, contraction and expansion joints in walls with one surface in contact with liquid and the opposite surface in contact with soil.

Take extra care to prevent displacement or folding of waterstops. Exert extra effort to embed waterstops fully on both sides in dense concrete.

Place waterstops to provide a complete seal with no gaps. Take care at complex joint intersections that waterstops are fully spliced (heat sealed) to form a continuous seal with preformed corner and intersection sections.

BASIS OF PAYMENT

This work will not be measured for payment but is included in the contract unit price for "CONCRETE STRUCTURES" and "CONCRETE SUPERSTRUCTURE".

SPECIAL PROVISION
MINER STREET GATE STRUCTURE

DESCRIPTION

This work shall consist of providing the materials and labor to provide and install the precast and cast-in-place concrete manhole structure in accordance with the details shown in the plans, in accordance with this Special Provision and in accordance with Section 602 of the Standard Specifications, ASTM C478, Standard Specification for Precast Reinforced Concrete Manhole Sections and ASTM C76, Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe except as modified herein.

This work shall also include the cast iron steps, the access hatch, the slide gate, all excavation, backfilling, dewatering and temporary earth retention systems, whether or not shown on the drawings but required to protect existing structures and utilities, in accordance with the Standard Specifications and in accordance with the details shown in the plans.

GENERAL

The base slab shall have a projection beyond the outside diameter of the manhole to resist buoyancy in accordance with the details shown in the plans and shall be cast monolithic with the lower riser section with reinforcing bar dowels from the base up into the lower riser section of the manhole.

The top slab may be precast or cast-in-place concrete.

MATERIALS

Provide materials in accordance with Section 602 of the Standard Specifications.

Slide Gate

Slide Gate shall be: H. Fontaine Ltd. Series 20-05 or approved equal in conformance with AWWA C561.

Frame, gate and stiffeners shall be fabricated of minimum 1/4 inch thick 316 Stainless steel plate and standard rolled or bent sections.

Fabricate flush bottom, side and top seals of EPDM with UHMWPE sliding bars.

Fasteners to be of 316 stainless steel. Size bolts to fully penetrate the wall of the manhole and provide method for sealing said holes.

The gate shall be self contained type with guides and frame designed to be mounted within a circular manhole so that gate will seal against face of manhole. Provide a stainless steel cover plate to cover the access hole in manhole lid both to prevent objects or people from entering the hole and so that the pedestal stand can be mounted over the hole. Gate fabricator is to provide size for hole in slab such that gate frame (not including the wall mounting frame) can be installed or removed from the top. Contractor to coordinate this information with fabricator of manhole.

Operator: Provide pedestal mounted gear box with a 2" square nut and non-rising stem for operation by a portable electric operator.
Maximum allowable leakage rate: 0.1 gal/min/ft (L/mm/300 mm) of perimeter for seating and unseating heads up to 15 feet (4.6 m).

SUBMITTALS

Shop drawings for reinforcing and all materials.

Shop drawings and certification for precast manhole riser sections as evidence of compliance with the requirements of this Special Provision.

Fabrication shop drawings for slide gate.

Operation and maintenance manual for gate.

INSTALLATION

Install in accordance with Section 602 of the Standard Specifications.

BASIS OF PAYMENT

This work will be paid for at the contract lump sum price for MINER STREET GATE STRUCTURE which price will be payment in full for all labor, materials, transportation, handling, and any incidentals necessary to furnish and install all materials as specified herein. The cast iron steps, access hatch, slide gate, all excavation, backfilling, dewatering and temporary earth retention systems will not be measured for payment, but are included in the contract lump sum price for MINER STREET GATE STRUCTURE.

SPECIAL PROVISION
INTERCEPTOR NO. 9 STRUCTURE

DESCRIPTION

This work shall consist of providing the materials and labor related to the demolition and modification of Interceptor No. 9 Structure. This includes the temporary soil retention system to protect the existing roadway, existing structures and utilities, all excavation, dewatering and backfill work, concrete work, a new stop gate, raising the elevation of the existing manhole, demolition of portions of existing structures, including the headwall and outfall, as well as an adjacent septic tank, and modifications required to the existing structure and associated piping in accordance with the details shown in the plans, in accordance with this Special Provision and in accordance with the Standard Specifications except as modified herein. Storm sewer pipe installation is paid for separately.

GENERAL

The existing Interceptor No. 9 Structure was constructed around 1941 and consists of both a junction structure and a drop structure/manhole. The junction structure portion collects sanitary and combined sewage and then discharges the flow into the drop structure. Sewer overflow is diverted to the river through an automatic drainage gate and outfall structure. In addition to the sewer overflow, a storm sewer outlet pipe discharges to the river through the headwall. There are no existing drawings showing the alignment of this pipe, but field observations indicate that it probably is routed between the junction structure and the drop structure. This pipe appears to be an 18-inch diameter clay tile pipe that was laid on a curve by "cracking the joints". Some of these joints appear to be open and debris was observed within the pipe. It is possible that this pipe was cast- in-place in a concrete pour between the two structures.

Modifications to the Interceptor No. 9 Structure paid for under this special provision include demolition of the existing overflow sewer and headwall, septic tank, and the storm sewer pipe (described above) that runs between the two structures, permanently closing the automatic drainage gate by pouring a concrete plug between the junction structure and the floodwall, and replacing the pipe that connects the junction structure to the drop structure with a pipe that includes a stop gate. The sewer overflow portion of Interceptor No. 9 Structure including the headwall is being demolished as it interferes with the alignment of the floodwall/sheeting and a proposed storm sewer that is to be placed between the floodwall and the junction structure. The existing automatic drainage gate is being permanently closed and a concrete plug is to be poured against it. This plug shall be placed after both the floodwall/sheeting and the storm sewer have been installed.

Dry weather flows for the sanitary sewers are unknown. For bidding purposes average dry weather flows have been estimated at 350 gpm. These flows assume the 8" and 15" sanitary sewers at minimum slope flowing 1/3rd full into the structure. It should be noted that the 15" sewer is actually a combined sewer serving the area generally bounded by Miner Street on the south, the Des Plaines River to the west, Rand Road to the north, and approximately the east property line of United Stationers and SBC. Therefore, standby bypass pumping is required for storm flows.

To establish a baseline flow for sizing pumps and controls the Contractor shall monitor dry

weather flows for a period of 30 calendar days. Prior to beginning construction of the modifications to Interceptor No. 9 Structure the Contractor shall submit a plan for temporary bypass pumping to the Resident Engineer for review and approval. The bypass pumping plan shall include records of the Contractor's flow monitoring; proposed pumping arrangement; plans for contingencies such as the event of pump failure, power outage, etc.; and a detailed construction schedule.

By-pass pumping of sanitary and combined sewage during construction and by-pass piping and/or pumping of storm flows during installation of these modifications is included in this Interceptor No. 9 Structure pay item and shall not be paid for separately.

MATERIALS

Unless otherwise noted herein, provide materials in accordance with the Standard Specifications.

Stop Gate

Stop Gate shall be manufactured by: H. Fontaine Ltd. Series 92 Stop Plate or approved equal. Frame, gate and stiffeners shall be fabricated of minimum 1/4 inch thick 316 Stainless steel plate and standard rolled or bent sections.

Fabricate flush bottom, side and top seals of EPDM with UHMWPE sliding bars.

Fasteners to be of 316 stainless steel.

The gate shall be self contained type with guides designed to be mounted within a rectangular section of stainless steel plate that can be embedded in concrete or direct buried. The gate shall have two parallel guides. One guide shall act as a storage rack holding the gate well above the fluid. The second guide frame will extend to the invert of the gate. The bottom section of the gate is to include a fabricated section of 18-inch diameter pipe on the upstream side of the gate. The pipe downstream is to attach to what according to historic plans is an 18 -inch square section which transitions to an 18-inch diameter circular section at the drop manhole. For the purpose of this gate design, consider the drop manhole to be upstream. Thus, the gate fabricator is to provide a transition section to smooth out the transition from rectangular to circular section. If the actual length measured in place between the two structures is too short to make fabrication of the transition section upstream of the gate, then the fabricator has the option of fabricating the gate section to match the invert of the transitional section. Connection to the existing concrete structures shall be using adjustment flanges that can be bolted to the concrete structure and affixed to the transitional pipe sections by means of set screws or field weldments. Provide a stainless steel bolted lid so that access to the gate is secure.

Gates: Stainless steel gate.

Operator: No operator shall be provided for this stop plate. The gate fabricator is to provide a stainless steel lifting chain by which the gate will be lifted from the storage rack and lowered into the closed/block channel position under its own weight. To re-open the gate will require that the gate be lifted from the closed position and then stored back in the storage rack. Provide a stainless steel storage hook inside the gate enclosure on which to hang the lifting chain.

Leakage rates shall be as follows:

0.2 gal/min/ft (L/mm/300 mm) of perimeter for seating heads up to 15 feet (4.6 m).

0.2 gal/min/ft (L/min/300 mm) of perimeter for unseating heads up to 10 feet (3.0 m).

SUBMITTALS

Shop drawings for:

1. Concrete, reinforcing and all materials.

2. Certification for precast concrete manhole riser sections as evidence of compliance with the requirements of this Special Provision and as shown on the Drawings.
3. The temporary soil retention system.
4. Temporary by-pass pumping.
5. Gate.
6. Piping.
7. Detailed sequence of construction and construction schedule.

INSTALLATION

Install in accordance with the Standard Specifications and the suggested sequence of work below:

1. Provide temporary sheeting to protect the roadway, the existing telephone duct and the existing Interceptor No. 9 Structure.
2. Provide temporary dewatering and removal of earth evenly from both sides of the structure prior to start of demolition to prevent overturning and sliding of the existing Interceptor No. 9 Structure due to unbalanced soil loads and buoyancy.
3. Re-route the 18" storm sewer to the east around Interceptor No. 9 Structure. Provide a temporary outfall and/or pumping until after the floodwall is constructed and the permanent new river outfall is in place. Expose the west wall of the junction structure and the east wall of the drop structure to get the necessary field measurements for fabrication of the stop gate/slide gate.
4. Demolish overflow structure including headwall and septic tank. Close the automatic drainage gate, but do not place the concrete plug.
5. Construct floodwall/sheeting. After floodwall is completely in place, install the new outfall sewer through floodwall including the new gate structure and storm sewer between floodwall and Interceptor No. 9 Structure. After the storm sewer is in place, the concrete plug shall be poured encapsulating both the storm sewer pipe and the existing automatic drainage gate.
6. Provide temporary pumping prior to demolition of the connecting pipe between the junction structure and the drop manhole and then demolish the connecting pipe.
7. Install new stop gate/slide gate framework bolted into the existing structure as required by the manufacturer of the stop gate/slide gate. Place concrete to permanently encase and hold the new stop gate/slide gate in place.

BASIS OF PAYMENT

This work will be paid for at the contract lump sum price for the "INTERCEPTOR NO. 9 STRUCTURE" which price will be payment in full for all labor, materials, transportation, handling, and any incidentals necessary to furnish and install all materials as specified herein.

SPECIAL PROVISION
ELECTRIC SERVICE CONNECTION

DESCRIPTION

This item shall consist of work to be performed by ComEd in providing the electric service as indicated.

CONSTRUCTION REQUIREMENTS

It shall be the Contractor's responsibility to contact ComEd. The Contractor shall coordinate his/her work fully with ComEd both as to the work required and the timing of the installation. No additional compensation will be granted under this or any other item for extra work caused by failure to meet this requirement.

The Contractor should make particular note of the need for the earliest attention to arrangements with ComEd for service. In the event of delay by the utility, no extension of time will be considered applicable for the delay unless the Contractor can produce written evidence of a request for electric service within 30 days of award.

METHOD OF MEASUREMENT

This work will not be measured for payment. The Contractor will be reimbursed to the exact amount of money as billed by ComEd for their services. Work provided by the Contractor for electric service shall be paid separately as described under **ELECTRIC SERVICE INSTALLATION – MINER STREET PUMP STATION**. No extra compensation shall be paid to the Contractor for any incidental materials and labor required for fulfilling the requirements as shown on the plans and specified herein.

BASIS OF PAYMENT

This work will be paid for at the contract lump sum price for:

ELECTRIC SERVICE CONNECTION – MINER STREET PUMP STATION
ELECTRIC SERVICE CONNECTION – BIKE TRAIL LIGHTING SYSTEM

which shall be payment in full for the work, specified herein.

SPECIAL PROVISION
ELECTRIC SERVICE INSTALLATION

DESCRIPTION

This item shall consist of all material and labor required to extend, connect or modify the ComEd electric services, as herein specified indicated, as shown on the Plans, and as directed by the Engineer, which is over and above the work performed by the utility.

Unless otherwise indicated, the cost for the ComEd utility work, if any, will be reimbursed to the Contractor separately under ELECTRIC SERVICE CONNECTION. ELECTRIC SERVICE INSTALLATION may apply to the work at more than one service location and each will be paid separately.

MATERIALS

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

	<u>Item</u>	<u>Article/Section</u>
a.	Electric Service Installation - Lighting	1086.01

CONSTRUCTION REQUIREMENTS

The Contractor shall ascertain the work being provided by ComEd and shall provide all additional material and work required completing the electric service work in complete compliance with the requirements of ComEd.

No additional compensation will be allowed for work required for the electric service, even though not explicitly shown on the Drawings or specified herein.

METHOD OF MEASUREMENT

This work will not be measured for payment.

BASIS OF PAYMENT

This work will be paid for at the contract lump sum price for

ELECTRIC SERVICE INSTALLATION – MINER STREET PUMP STATION,
ELECTRIC SERVICE INSTALLATION – BIKE TRAIL LIGHTING SYSTEM

which shall be reimbursement in full for electric charges.

SPECIAL PROVISION
WHEELS PUMP STATION ELECTRICAL

DESCRIPTION

This item of work shall provide for and govern the Electrical Work associated with the construction of a storm water pump station as shown on the Plans. The Work shall include all labor, equipment and services necessary for the proper completion of all Electrical Work as specified herein and as shown on the Plans. The word "wiring" where used shall mean a continuous system of wiring composed of conduit, fittings, boxes, wire, hangers, supports, all associated required equipment, apparatus and hardware and final connections.

Work Included Under This Item of the Specification.

- Contractor shall furnish and install wiring from Wheels, Inc. to the pump station control cabinet; and from the pump station control cabinet to the pumps and level controls in the pump basin as shown on the Plans and as required for a complete and operating system.

Related Work Specified Elsewhere.

- Pump station control panel furnished under WHEELS PUMP STATION PUMPS, PUMP CONTROLS, PIPING AND APPURTENANCES special provision.

MATERIALS

All materials shall conform to the applicable requirements of Section 1000 of the Standard Specifications for Road and Bridge Construction of the Illinois Department of Transportation.

Conduit and Fittings

Conduits and fittings shall be PVC coated galvanized steel in accordance with the requirements of Section 1088 of the Standard Specifications. Conduit shall be installed in accordance with the requirements of Section 810 of the Standard Specifications.

Cable: All power and control cable shall be type RHH/RHW insulated copper, rated at 600 volts in accordance with Articles 1066.02 and 1066.03 of the Standard Specifications. Cable shall be installed in accordance with the requirements of Section 817 of the Standard Specifications. All electric cables installed shall be color-coded in accordance with Article 1066.02 of Standard Specifications.

All electric cables shall be tagged or otherwise marked for ease of identification.

Cable Markers: Plastic-coated cable markers of the wrap-around self-adhesive type, with factory-printed numbers, letters and symbols shall be used to identify all conductors. All conductors shall be tagged in cabinets at the time wires are pulled in and tested, and markers shall not be removed for any reason. All feeder cables shall be labeled with Brady or approved equal wire markers in all junction boxes, pull boxes and panels.

Safety Switch: Safety switches shall be heavy duty, fusible type rated 200 amperes at 600 volts for 480 VAC circuits. Each safety switch shall be furnished in a NEMA Type 4X stainless steel enclosure and shall be rated for use as service equipment. Each safety switch shall have an external handle that can be padlocked in the "ON" and "OFF" positions. The handle operation shall be non-teasible, quick make-quick break.

Manufacturers: Acceptable disconnects switch manufacturers shall be Square D, GE, Cutler-Hammer, or approved equal.

Fuses: Furnish and install fuses for all fusible equipment provided on the project. All fuses shall be provided in accordance with the indications of size and voltage ratings given on the Drawings and shall have UL and NEC approval as being suitable protection for conductors under overload conditions. All fuses shall be of the same manufacturer. Fuses shall be Bussman "RK-1" fuses or approved equal; shall be UL listed Class "RK-5" fuses having an interrupting rating of 200,000 amperes; shall be dual-element with a separate thermal element that will open at 290 degrees F or less; and shall have time-delay such that they will hold 500 percent rated current for a minimum of ten seconds in all sizes. Spare fuses shall be furnished in the ratio of ten percent of each size and type installed, but not less than three of each size and type. The Contractor shall replace all fuses blown during construction, and a complete supply of spare fuses shall be turned over to the Department upon completion of the project.

METHOD OF MEASUREMENT

This work will not be measured for payment.

BASIS OF PAYMENT

Payment will be made at the contract lump sump price for WHEELS PUMP STATION ELECTRICAL WORK, which payment shall be full compensation for all electrical work shown on the Contract Drawings and specified which is not specifically indicated to be included under another pay item and shall include furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work as specified.

SPECIAL PROVISION

MINER STREET PUMP STATION ELECTRICAL

DESCRIPTION

This item of work shall provide for and govern the Electrical Work associated with the construction of a storm water pump station as shown on the Plans. The Work shall include all labor, equipment and services necessary for the proper completion of all Electrical Work as specified herein and as shown on the Plans. The word "wiring" where used shall mean a continuous system of wiring composed of conduit, fittings, boxes, wire, hangers, supports, all associated required equipment, apparatus and hardware and final connections.

Work Included Under This Item of the Specification.

- Contractor shall furnish and install wiring from the ComEd service location to the pump station control cabinet; and from the pump station control cabinet to the pumps and level controls in the pump basin as shown on the Plans and as required for a complete and operating system.

Work Not Included Under This Item.

- The work associated with coordinating and furnishing the ComEd Service.
- Payment of ComEd Excess Facility Charges.

Related Work Specified Elsewhere.

- Pump station control panel furnished under MINER STREET PUMP STATION PUMPS, PUMP CONTROLS, PIPING AND APPURTENANCES special provision.

MATERIALS

All materials shall conform to the applicable requirements of Section 1000 of the Standard Specifications for Road and Bridge Construction of the Illinois Department of Transportation.

Conduit and Fittings

Conduits and fittings shall be PVC coated galvanized steel in accordance with the requirements of Section 1088 of the Standard Specifications. Conduit shall be installed in accordance with the requirements of Section 810 of the Standard Specifications.

Cable: All power and control cable shall be type RHH/RHW insulated copper, rated at 600 volts in accordance with Articles 1066.02 and 1066.03 of the Standard Specifications. Cable shall be installed in accordance with the requirements of Section 817 of the Standard Specifications. All electric cables installed shall be color-coded in accordance with Article 1066.02 of Standard Specifications.

All electric cables shall be tagged or otherwise marked for ease of identification.

Cable Markers: Plastic-coated cable markers of the wrap-around self-adhesive type, with factory-printed numbers, letters and symbols shall be used to identify all conductors. All conductors shall be tagged in cabinets at the time wires are pulled in and tested, and markers shall not be removed for any reason. All feeder cables shall be labeled with Brady or approved equal wire markers in all junction boxes, pull boxes and panels.

Safety Switch: Safety switches shall be heavy duty, fusible type rated 200 amperes at 600 volts for 480 VAC circuits. Each safety switch shall be furnished in a NEMA Type 4X stainless steel enclosure and shall be rated for use as service equipment. Each safety switch shall have an external handle that can be padlocked in the "ON" and "OFF" positions. The handle operation shall be non-teasible, quick make-quick break.

Manufacturers: Acceptable disconnects switch manufacturers shall be Square D, GE, Cutler-Hammer, or approved equal.

Meter Socket: The meter socket shall be ringless type, 200-ampere, 3-phase, 4-wire, 600 VAC, with short circuit current rating as required by the Utility. Meter socket shall be UL Listed and shall have a NEMA Type 3R enclosure. The meter enclosure shall be mounted as shown on the Plans. The meter socket shall conform to all requirements of the ComEd.

Manufacturers: Meter socket shall be as manufactured by Milbank, or approved equal.

Fuses: Furnish and install fuses for all fusible equipment provided on the project. All fuses shall be provided in accordance with the indications of size and voltage ratings given on the Drawings and shall have UL and NEC approval as being suitable protection for conductors under overload conditions. All fuses shall be of the same manufacturer. Fuses shall be Bussman "RK-1" fuses or approved equal; shall be UL listed Class "RK-5" fuses having an interrupting rating of 200,000 amperes; shall be dual-element with a separate thermal element that will open at 290 degrees F or less; and shall have time-delay such that they will hold 500 percent rated current for a minimum of ten seconds in all sizes. Spare fuses shall be furnished in the ratio of ten percent of each size and type installed, but not less than three of each size and type. The Contractor shall replace all fuses blown during construction, and a complete supply of spare fuses shall be turned over to the Department upon completion of the project.

METHOD OF MEASUREMENT

This work will not be measured for payment.

BASIS OF PAYMENT

Payment will be made at the contract lump sump price for MINER STREET PUMP STATION ELECTRICAL WORK, which payment shall be full compensation for all electrical work shown on the Contract Drawings and specified which is not specifically indicated to be included under another pay item and shall include furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work as specified.

SPECIAL PROVISION
BIKE TRAIL LIGHTING SYSTEM

The Bike Trail Lighting System shall be installed complete and operational Miner Street underpass bike trail lighting and provisions for future bike trail lighting on the floodwall external to the underpass. The Bike Trail Lighting System shall be installed in accordance with the applicable pay items of Section 800, Electrical of the Standard Specifications for Road and Bridge Construction of the Illinois Department of Transportation. Cost for conforming to General Electric Requirements will not be paid for separately but will be included in electrical work for the Bike Trail Lighting System.

MATERIALS

All materials shall conform to the applicable requirements of Section 1000 of the Standard Specifications for Road and Bridge Construction of the Illinois Department of Transportation.

Conduit Attached to Structure: Conduits and fittings shall be PVC coated galvanized steel in accordance with the requirements of Section 1088 of the Standard Specifications. Conduit shall be installed in accordance with the requirements of Section 811 of the Standard Specifications.

Conduit Embedded in Structure: Unless otherwise indicated, conduits and fittings shall be rigid nonmetallic conduit in accordance with the requirements of Section 1088.01(b) of the Standard Specifications. Conduit shall be installed in accordance with the requirements of Section 812 of the Standard Specifications.

Conduit in Trench: Conduits and fittings shall be PVC coated galvanized steel in accordance with the requirements of Section 1088 of the Standard Specifications. Conduit shall be installed in accordance with the requirements of Section 810 of the Standard Specifications.

Unit Duct: Unit duct shall be an assembly of insulated conductors which are factory pre-installed in a coilable nonmetallic conduit accordance with the requirements of Section 1066.01 of the Standard Specifications. Unit duct shall be installed in accordance with the requirements of Section 816 of the Standard Specifications.

Junction and Pull Boxes: Junction boxes attached to structure shall be stainless steel in accordance with the requirements of Section 1088.01 of the Standard Specifications. Junction boxes embedded the flood wall shall be composite concrete junction boxes in accordance with the requirements of Section 1088.05 of the Standard Specifications. Junction and pull boxes shall be installed in accordance with the requirements of Section 813 of the Standard Specifications.

Trench and Backfill: Backfill material shall be in accordance with the requirements of Section 1066.05 of the Standard Specifications. Trench and Backfill shall be installed in accordance with the requirements of Section 815 of the Standard Specifications.

Cable: All power and control cable shall be type RHH/RHW insulated copper, rated at 600 volts in accordance with Articles 1066.02 and 1066.03 of the Standard Specifications. Cable shall be

installed in accordance with the requirements of Section 817 of the Standard Specifications. All electric cables installed shall be color-coded in accordance with Article 1066.02 of Standard Specifications.

All electric cables shall be tagged or otherwise marked for ease of identification.

Cable Markers: Plastic-coated cable markers of the wrap-around self-adhesive type, with factory-printed numbers, letters and symbols shall be used to identify all conductors. All conductors shall be tagged in cabinets at the time wires are pulled in and tested, and markers shall not be removed for any reason. All feeder cables shall be labeled with Brady or approved equal wire markers in all junction boxes, pull boxes and panels.

LUMINAIRES

This work shall consist of furnishing and installing a luminaire including branch circuit/extension wire as applicable, lamp, fuseholders, mounting hardware and fusing.

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

	<u>Item</u>	<u>Article/Section</u>
a.	Luminaire	1067.01
b.	Fuseholder & Fuses	1065.01
c.	Lamps	1067.02
d.	Fasteners and Hardware	1088.03
e.	Lightning Protection - Lighting	1065.02

Underpass luminaires shall be equipped with 50-Watt Metal Halide lamps.

MANUFACTURERS

Underpass Luminaires shall be 100-Watt metal halide, Hydrel, Model number HP3-100M-240-HFW-SDE-DF-LPI-BZ, or approved equal.

Flood Wall Luminaires shall be 100-Watt metal halide Kenell semi-recessed Millenium, Model number MR17WPSR-ND-C-MB-100M-1-240-2FS, or equal.

Bike Trail Lighting Units shall be 250-Watt metal halide Hydrel, Model number 8200-250M-SR3-PMEF-SSS16-DF-LPI-BZ, or equal with 16 ft square steel pole, Hydrel HYDSS-16-4G-X-FBC-BZ and foundation.

Underpass luminaires shall be installed in accordance with the requirements of Section 821 of the Standard Specifications.

LIGHTING CONTROLLER

This work shall consist of furnishing and installing an electrical control cabinet with control devices, distribution equipment, foundation, and wiring for control of Miner Street underpass bike trail lighting with provisions for future bike trail lighting external to the underpass.

MATERIALS

The control cabinet enclosure shall be NEMA Type 3R enclosure with stainless steel hardware. The enclosure shall be made from 0.125 inch thick aluminum alloy type 5052-H32. The equipment-mounting panel shall be 1/2 inch Benelex material. The cabinet shall be equipped with a vent designed to exclude moisture, dirt and insects. A hinged door with neoprene gaskets shall be provided. A key locking handle with three-point latch shall be provided. Two keys shall be furnished. The exterior finish shall be natural aluminum per federal specification QQA-250/8. The enclosure shall be equipped with devices as shown on the drawings and herein specified. Connector screws shall be painted white for neutral bar and green for ground bar connectors. Wiring shall be stranded copper 600-volt rated type RHW, Number 12 AWG minimum. All control wiring shall be stranded and marked with Brady markers. The cabinet shall be equipped with a stainless nameplate 3 inch x 11 inch, legend to read "BIKE TRAIL LIGHTS". A wiring diagram in a print pocket on the inside of the cabinet door shall be provided. The enclosure shall be as manufactured by Tri-County, Southern or approved equal.

Breakers shall be molded case, heavy duty, and "EHD" frame. Breakers shall be single or multiple pole with capacities and trip ratings as shown on the Drawings. All lugs and terminators shall be copper. Acceptable manufacturer shall be Square D, GE, Cutler-Hammer, or approved equal.

Each lighting contactor shall be electrically operated, mechanically held type, 2 pole with contacts rated for 100 amperes at 240-volts. The contactors shall have 120-volt operating coil and shall be open type. Each contactor shall be equipped with a control module for two-wire control. The contactors shall be as manufactured by Square D, Cutler-Hammer, ASCO, Model Number 920, or approved equal.

Surge arresters shall be of the valve-type, consisting of a spark gap structure and non-linear resistive elements of silicon carbide valve blocks. The arresters shall be 650-volt maximum rated, designed for protection of 240-volt, single phase, three wires, grounded secondary services. The arresters shall meet all applicable ANSI, NEMA, IEEE and OSHA Standards. Arresters shall be single pole units as manufactured by Allen Bradley, Joslyn Mfg. And Supply Co., General Electric Co., or approved equal.

Fittings for terminating external underground conduits shall be provided in the bottom panel of the cabinet directly below the circuit breakers. Side and top panel conduit entrance penetrations shall be accomplished only by means of suitable threaded and gasketed conduit hub.

The neutral bus shall have eighteen separate insert type compression mechanical connectors each suitable for a single conductor, two for Number 1/0, ten ranging from Number 6 to Number 1 and six ranging from Number 8 to Number 12 stranded copper. Compression shall be applied by means of a screwdriver or wrench.

The ground bus shall have sixteen separate insert type compression mechanical connectors each suitable for a single conductor, ten ranging from Number 6 to Number 1 and six ranging from Number 8 to Number 12 stranded copper. Compression shall be applied by means of a screwdriver or wrench. The ground strip shall be mounted on the insulating panel with a Number 6 copper connection to the metal cabinet for grounding it, as per NEC 250, and a Number 6 copper connection to the ground rod for the lighting controller. The ground strip and

neutral strip shall be separated and connected with a jumper wire.

All equipment shall be mounted within the enclosure on a mounting panel. The mounting panel shall be a minimum 65 inches high, 27 inches wide and 1/2 inch thick and should be benelex or equal. It shall be mounted by means of corrosion-proof hardware to the back of the cabinet in such a way that no bolts will protrude outside the back of the cabinet.

Lighting Controllers shall be installed in accordance with the requirements of Section 825 of the Standard Specifications.

Ground Rod: Ground rods shall be 10 feet in length, 3/4 diameter copper-clad steel in accordance with the requirements of Section 1087 of the Standard Specifications. Ground rods shall be installed in accordance with the requirements of Section 806 of the Standard Specifications.

Meter Socket: The meter socket shall be ringless type, 100-ampere, 1-phase, 3-wire, 600 VAC, with short circuit current rating as required by the Utility. Meter socket shall be UL Listed and shall have a NEMA Type 3R enclosure. The meter enclosure shall be mounted as shown on the Plans. The meter socket shall conform to all requirements of the ComEd. Meter socket shall be as manufactured by Milbank, or approved equal.

METHOD OF MEASUREMENT

This work will not be measured for payment.

BASIS OF PAYMENT

Payment will be made at the contract lump sump price for BIKE TRAIL LIGHTING SYSTEM – FLOOD CONTROL, which payment shall be full compensation for all electrical work shown on the Contract Drawings and specified for the complete culvert lighting system including the lighting controller, all conduit and pullboxes embedded in the floodwall, and wire associated with the culvert lighting circuit. Payment shall include items which are not specifically indicated to be included under another pay item and shall include furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work as specified.

Payment will be made at the contract lump sump price for BIKE TRAIL LIGHTING SYSTEM - DES PLAINES, which payment shall be full compensation for all electrical work shown on the Contract Drawings and specified for the bike trail lighting system outside of the culvert including the floodwall fixtures and associated circuit wiring in addition to bike trail lighting units, underground unit duct and associated circuit wiring. Payment shall include items which are not specifically indicated to be included under another pay item and shall include furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work as specified.

SPECIAL PROVISION

1842 E. MINER STREET DEMOLITION AND MODIFICATIONS

DESCRIPTION

This work shall consist of providing the materials and labor related to the demolition and modification of a portion of the structure at 1842 E. Miner Street (Action Auto Body) in accordance with the details shown in the Plans, in accordance with this Special Provision and in accordance with the Standard Specifications except as modified herein.

GENERAL

A portion of the building at 1842 E. Miner Street (Action Auto Body), on the west end, shall be demolished and reconstructed with new foundations, beams, columns and walls. The existing spray paint booth must be relocated so as to maintain in operation while the demolition and modifications are being completed. It will be necessary to cut an existing steel column to provide space for the existing spray paint booth in a new location. This will require temporary roof, column, wall shoring and temporary structural supports to maintain the structural integrity of the existing building.

The Contractor is to provide and install all metal roof and insulated metal wall panels, decking, closure strips, roof patching, roof accessories, flashing, gutters, downspouts, splash blocks, translucent corrugated fiberglass panels, vapor barriers, and joint sealers required to properly enclose and maintain watertight the shell for the modified building as indicated in the drawings, and described in these Special Provisions and to match existing.

The Contractor is to provide and install an insulated, sectional door with galvanized, pre-painted panels, bottom weatherstripping. The opening is to be 18' wide by 14' high.

The Contractor shall provide temporary or permanent relocation of electrical conduits to maintain electrical service to the building and temporary or permanent relocation of plumbing, heating and ventilation to maintain mechanical service to the building.

The existing building must be maintained in service during the demolition and modification work. Refer to the Plans for a suggested sequence of construction.

The Contractor shall visit the site and familiarize himself with all existing conditions prior to bidding the Work.

PERMIT APPLICATION

The Contractor shall be responsible for obtaining the building permits from the City of Des Plaines. Survey the area of the building to be demolished. Locate all electrical equipment, outlets, controls and appearances that will be affected by the demolition. Locate all mechanical plumbing, heating and ventilating equipment and appearances that will be affected by the demolition. Prepare drawings and accompanying permit application documents in accordance with the requirements of the City of Des Plaines showing demolition and remodeling work

including mechanical and electrical items and work. After concurrence of the building owner submit the permit application to the City of Des Plaines.

MATERIALS

Provide material in accordance with the Standard Specifications, this Special Provision and notes and details shown on the Drawings.

All building enclosure materials are to match existing panel construction, gauge, profile and color.

CLEANING AND PAINTING

Cleaning and painting shall conform to the Standard Specifications, CLEANING AND PAINTING NEW METAL STRUCTURES at the end of the Special Provision for the Rand Road Flood Gate), except as modified herein, and the paint manufacturer's recommendations.

Provide a 3 coat system, with all coats shop applied consisting of an organic zinc rich primer coat, an epoxy intermediate coat and a urethane paint topcoat. The system shall be for full shop application of the coating system.

Color shall be as selected by the building Owner or shall match existing.

SUBMITTALS

Permit application:

1. Prepare documents for building permit application.

Submit shop drawings for:

2. Underpinning, temporary shoring and temporary structural support calculations and details for the protection of the existing structure sealed and signed by a Structural Engineer licensed in the State of Illinois.
3. Connection calculations and details of metal wall panels to structural steel girts, sealed and signed by a Structural Engineer licensed in the State of Illinois.
4. Detailed sequence of construction and construction schedule.
5. All materials used in the Work, including product data, material certificates certifying that materials meet or exceed specified requirements.
6. Welder's certificates showing AWS certification within the last 12 months, for all welders employed in the Work.
7. Mill test reports.
8. Concrete mix design.
9. For Plans not showing detailed reinforcing bar lists, the Contractor shall prepare and submit reinforcing bar fabrication shop drawings, including complete reinforcing bar lists, with all bending and splicing information, their location and all other information required for their proper placement in the Work.
10. Structural Steel fabrication shop drawings. Submit connection calculations sealed and signed by a Structural Engineer licensed in the State of Illinois for calculations not detailed on the drawings.
11. Metal Roof and Wall Panel profiles, jointing patterns, jointing details, flashings, terminations and installation details.

12. Data on metal types, finishes and characteristics.
13. Manufacturer's installation instructions including special procedures for roof penetrations, flashings and perimeter conditions requiring special attention.
14. Sectional garage door opening dimensions, connection details, anchorage opening, hardware locations and installation details.

Do not fabricate material or begin work in areas where shop drawings are required until the Engineer has approved the submittals.

INSTALLATION

Install in accordance with the Standard Specifications, this Special Provision, Manufacturers' recommendations, the suggested sequence of construction, and as shown on the Plans. Perform metal roof, wall panel and flashing installation in accordance with SMACNA and NRCA Manual.

METHOD OF MEASUREMENT

Demolition and Modifications for 1842 E. Miner Street (Action Auto Body) will be measured on a lump sum basis.

BASIS OF PAYMENT

This work will be paid for at the contract lump sum price for the 1842 EAST MINER STREET DEMOLITION AND MODIFICATIONS which price will be payment in full for all labor, materials, transportation, handling, and any incidentals necessary to demolish and remove from the site the portion of the building as shown and as required to furnish and install all materials as specified herein and as shown on the Plans.

SPECIAL PROVISION

1844 E. MINER STREET DEMOLITION AND MODIFICATIONS

DESCRIPTION

This work shall consist of providing the materials and labor related to the demolition and modification of a portion of the structure at 1844 E. Miner Street (Z-Car) in accordance with the details shown in the Plans, in accordance with this Special Provision and in accordance with the Standard Specifications except as modified herein.

GENERAL

The lean-to shed on the west side of 1844 E. Miner Street (Z-Car) shall be demolished in its entirety and the opening to the shed from the main building shall be blocked up with concrete block to match the thickness and size of the existing concrete block wall.

The Contractor shall visit the site and familiarize himself with all existing conditions prior to bidding the Work.

PERMIT APPLICATION

The Contractor shall be responsible for obtaining the building permits from the City of Des Plaines. Survey the area of the building to be demolished. Locate all electrical equipment, outlets, controls and appearances that will be affected by the demolition. Locate all mechanical plumbing, heating and ventilating equipment and appearances that will be affected by the demolition. Prepare drawings and accompanying permit application documents in accordance with the requirements of the City of Des Plaines showing demolition and remodeling work including mechanical and electrical items and work. After concurrence of the building owner submit the permit application to the City of Des Plaines.

MATERIALS

Provide material in accordance with the Standard Specifications, this Special Provision and as shown on the Drawings.

Hollow Load-Bearing Concrete Masonry Units: ASTM C90, Moisture Controlled with galvanized ladder type joint reinforcement at 16" on center vertically.

Mortar: ASTM C270, Type S.

SUBMITTALS

Shop drawings for:

1. Detailed sequence of construction and construction schedule.
2. All materials used in the Work, including product data, material certificates certifying that materials meet or exceed specified requirements.

Do not fabricate material or begin work in areas where shop drawings are required until the Engineer has approved the submittals.

INSTALLATION

Install in accordance with the Standard Specifications, this Special Provision and as shown on the Plans.

METHOD OF MEASUREMENT

Demolition and Modifications for 1844 E. Miner Street (Z-Car) will be measured on a lump sum basis.

BASIS OF PAYMENT

This work will be paid for at the contract lump sum price for the 1844 E. MINER STREET DEMOLITION AND MODIFICATIONS which price will be payment in full for all labor, materials, transportation, handling, and any incidentals necessary to demolish and remove from the site the portion of the building as shown and as required to furnish and install all materials as specified herein and as shown on the Plans.

SPECIAL PROVISION
MINER STREET STAIRS

DESCRIPTION

This work shall consist of providing the materials and labor related to the demolition and modification of a portion of the northeast wingwall parapet and the construction of new reinforced concrete stairs from the Miner Street Bridge to the bike path in accordance with the details shown in the Plans, in accordance with this Special Provision and in accordance with Sections 503 and 510 of the Standard Specifications except as modified herein.

GENERAL

The new reinforced concrete stairs shall be cantilevered from the existing Northeast wingwall of the Miner Street Bridge.

Design handrail assemblies, connections and attachments to the concrete stair to resist loads in accordance with the governing code, the International Building Code (IBC) 2000. Provide rail and post sizes as shown on the Drawings.

The Contractor shall visit the site and familiarize himself with all existing conditions prior to bidding the Work.

Verify field measurements prior to fabrication.

MATERIALS

Provide material in accordance with the Standard Specifications, this Special Provision and as shown on the Drawings.

Pipe for handrail assemblies shall conform to ASTM A500 or ASTM A53, Grade B, Type E.

Steel bars, channels and plates shall conform to ASTM A36.

Posts and rails for handrail assemblies shall be Schedule 80 and spaced at a maximum of 4 feet on center.

All steel components shall be cleaned, hot-dipped galvanized in conformance with ASTM A123 and shop and field painted. Color to be selected by the City of Des Plaines.

SUBMITTALS

Shop drawings for:

1. Handrail assemblies. Indicate railing layout, clearances and fit to other construction. Identify profiles, sizes, connections attachments, reinforcing, anchorage, size and type of fasteners and accessories. Submit shop drawings and design calculations for handrail

assemblies, connections and attachments to the concrete stair sealed and signed by a Structural Engineer licensed in the State of Illinois.

2. All materials used in the Work, including product data, material certificates certifying that materials meet or exceed specified requirements.

Do not fabricate material or begin work in areas where shop drawings are required until the Engineer has approved the submittals.

INSTALLATION

Install in accordance with the Standard Specifications, this Special Provision and as shown on the Plans.

METHOD OF MEASUREMENT

Miner Street Stairs will be measured on a lump sum basis. Handrail assembly will not be measured for payment.

BASIS OF PAYMENT

This work will be paid for at the contract lump sum price for the MINER STREET STAIRS which price will be payment in full for all labor, materials, transportation, handling, and any incidentals as required to remove and modify a portion of the existing parapet and guardrail and to furnish the concrete stairs, steel handrail assembly and install all materials as specified herein and as shown on the Plans.

SPECIAL PROVISION
FLOATING TURBIDITY CURTAIN

DESCRIPTION

This work shall consist of furnishing, constructing, installing, maintaining, and ultimately removing a turbidity curtain from the Des Plaines River in order to minimize the drift of suspended sediment in the water body during construction of the Project. Construction of the turbidity curtains shall be at the locations shown on the plans and as directed by the Engineer.

MATERIALS

Curtain. The curtain shall be a synthetic material coated with suitable elastomeric or polymeric compound and have a high resistance to weathering, hydrocarbons, fresh water, and temperature extremes. The material shall have a tensile strength of not less than 200 pounds when measured lengthwise or crosswise and shall have an equivalent opening size (U.S. Standard Sieve) of 60-170. Seams, if required, shall be either vulcanized welded or sewn and shall develop the full strength of the material.

Flotation Units. Flotation units shall be flexible, buoyant units contained in a flotation sleeve or collar attached to the turbidity curtain. Buoyancy provided by the flotation units shall be sufficient to support the required width of the turbidity curtain and maintain a freeboard of at least 3" above the water surface level. The flotation sleeve or collar shall be a bright color (yellow or orange) that will attract the attention of nearby boaters on the Des Plaines River.

Load Lines. Load lines shall be fabricated into the top and bottom of the turbidity curtain. The top load line shall consist of woven webbing or vinyl sheathed steel cable and shall have a minimum breaking strength of 10,000 pounds. The bottom load line shall consist of a galvanized steel chain incorporated into the bottom hem of the turbidity curtain of sufficient weight to act as ballast to hold the curtain in a vertical position. The load lines shall have suitable devices which develop the full breaking strength for connecting to load lines in adjacent sections.

Anchors. Anchors shall be standard marine type boat anchors. The Contractor shall use Danforth type anchors for sandy bottoms, or kedge or mushroom type anchors for mud bottoms. The size, weight, and overall number of the anchors shall be sufficient to hold the turbidity curtain in its intended location. Alternate anchoring methods such as heavy concrete weights or driven pilings may be used if approved, prior to use, by the Engineer.

CONSTRUCTION REQUIREMENTS

General. Prior to the installation of the turbidity curtain and its accessories, the Contractor shall submit the manufacturer's drawings and technical specifications to the Engineer for approval. When assembling and installing a turbidity curtain, the Contractor shall follow all the directions of the turbidity curtain manufacturer.

The turbidity curtain shall not be installed perpendicular to the direction of stream flow, such as across a river. The turbidity curtain shall be installed parallel to the flow of water only, such as along a river bank. All construction activities which generate any sediment or turbidity into the waterway shall be contained within the turbidity curtain.

Unless otherwise directed by the Engineer, the Contractor shall begin installation at the upstream end from an anchorage along the shoreline or face of the sheet piling and work along with the current in a downstream direction.

The turbidity curtain shall form a continuous vertical and horizontal barrier to suspended sediment. The bottom of the turbidity curtain shall rest in contact with the bottom of the waterway for the entire length of the turbidity curtain. The top of the turbidity curtain shall extend above the water surface with at least 3 inches of freeboard for all stages of water levels.

Installation of Floating Turbidity Curtain. The turbidity curtain shall be floated into position, attached to the anchor lines, and then unfurled. The Contractor shall securely attach curtain panel ends together using rope lashings. The top lashing shall be securely tied to the anchor line. The Contractor shall place the anchors such that the turbidity curtain remains in the Plan location and none of the flotation devices are pulled under the water surface. If directed by the Engineer, the Contractor shall supply and place additional anchorage.

Maintenance of Turbidity Curtain. Throughout the Project construction period, the Contractor shall maintain the turbidity curtain so that no sediment caused by the Project enters the waterway beyond the turbidity curtain.

All turbidity curtain damaged prior to installation, during installation, or during the life of the Contract shall be repaired or replaced to the satisfaction of the Engineer at no extra cost to the Department.

Removal of Turbidity Curtain. The turbidity curtain shall remain in place until the Project is complete and the turbidity has settled to no more than what existed prior to the start of construction. When directed by the Engineer, the turbidity curtain shall be furled in place, then released from its anchors and towed out of the water. The turbidity curtain and all materials incidental to the construction of the turbidity curtain shall be removed in such a manner as to minimize turbidity to adjacent waters. The turbidity curtain and related components shall become the property of the Contractor and shall be removed from the Project.

METHOD OF MEASUREMENT

The quantity of floating turbidity curtain will be measured, from edge to edge of the turbidity curtain along the support cable, as the actual number of linear feet of turbidity curtain placed and accepted.

BASIS OF PAYMENT

The quantity of floating turbidity curtain will be paid for at the Contract unit price per foot for FLOATING TURBIDITY CURTAIN. Price and payment will constitute full compensation for furnishing, assembling, installing, maintaining, and removing the turbidity curtain and all

materials incidental to the construction and installation of the turbidity curtain, and for all labor, tools, equipment, and incidentals required to complete the work.

BITUMINOUS BASE COURSE / WIDENING SUPERPAVE (BDE)

Effective: April 1, 2002

Revised: August 1, 2005

Description. This work shall consist of constructing bituminous base course Superpave and bituminous concrete base course widening Superpave according to Sections 355 and 356 respectively, of the Standard Specifications and the special provision, "Quality Control/Quality Assurance of Bituminous Concrete Mixtures" except as modified herein.

Revise Article 355.02(d) of the Standard Specifications to read:

"(d) RAP Material (Note 3)"

Revise Note 2 of Article 355.02 of the Standard Specifications to read:

"Note 2. Unless otherwise specified on the plans, the bituminous material shall be performance graded (PG) asphalt cement (AC), PG58-22. When more than 15 percent RAP is used, a softer PG binder may be required as determined by the Engineer. When the pavement has a structural number (D_t) of 3.00 or less, the low temperature grade of the asphalt cement shall be lowered one grade (i.e. PG58-28 replaces PG58-22)."

Add the following to the end Article 355.02 of the Standard Specifications:

"Note 3. RAP shall meet the requirements of the special provision "RAP for Use in Bituminous Concrete Mixtures"."

Revise Article 355.05 of the Standard Specifications to read:

"355.05 Mixture Design. The Contractor shall submit mix designs for approval, for each required mixture. Mix designs shall be developed by Level III personnel who have completed the course, "Superpave Mix Design Upgrade". The mixtures shall be designed according to the respective Illinois Modified AASHTO references listed below:

- AASHTO MP 2 Standard Specification for Superpave Volumetric Mix Design
- AASHTO R 30 Standard Practice for Mixture Conditioning of Hot-Mix Asphalt (HMA)
- AASHTO PP 28 Standard Practice for Designing Superpave HMA
- AASHTO T 209 Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
- AASHTO T 312 Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor

AASHTO T 308 Determining the Asphalt Content of Hot Mix Asphalt (HMA) by the Ignition Method

(a) Job Mix Formula (JMF). The JMF shall be according to the following limits:

<u>Ingredient</u>	<u>Percent by Dry Weight</u>
Aggregate.....	93.0 to 96.0
Asphalt Cement.....	4.0 to 7.0
Dust/AC Ratio	1.4

When RAP material is being used, the JMF shall be according to the following limits:

<u>Ingredient</u>	<u>Percent by Dry Weight</u>
Virgin Aggregate(s).....	46.0 to 96.0
RAP Material(s) (Note 1).....	0 to 50
Mineral Filler (if required)	0 to 5.0
Asphalt Cement.....	4.0 to 7.0
Dust/AC Ratio	1.4

Note 1. If specified on the plans, the maximum percentage of RAP shall be as specified therein.

It is recommended that the selected combined aggregate gradation not pass through the restricted zones specified in Illinois Modified AASHTO MP 2.

Bituminous concrete binder course Superpave mixture IL-25.0 or IL-19.0 meeting the requirements of the special provision, "Superpave Bituminous Concrete Mixtures" may also be used. The minimum compacted lift thickness specified therein shall apply.

(b) Volumetric Requirements.

Design Compactive Effort	Design Air Voids Target (%)
$N_{DES} = 50$	2.0

(c) Determination of Need for Anti-Stripping Additive. The mixture designer shall determine if an additive is needed in the mix to prevent stripping. The determination will be made on the basis of tests performed according to Illinois Modified AASHTO T 283 using 4 in. Marshall bricks. To be considered acceptable by the Engineer as a mixture not susceptible to stripping, the ratio of conditioned to unconditioned split tensile strengths (TSR) shall be equal to or greater than 0.75. Mixtures, either with or without an additive, with TSR values less than 0.75 will be considered unacceptable.

If it is determined that an additive is required, the additive may be hydrated lime, slaked quicklime, or a liquid additive, at the Contractor's option. The liquid additive shall be

selected from the Department's list of approved additives and may be limited to those which have exhibited satisfactory performance in similar mixes.

Dry hydrated lime shall be added at a rate of 1.0 to 1.5 percent by weight of total dry aggregate. Slurry shall be added in such quantity as to provide the required amount of hydrated lime solids by weight of total dry aggregate. The exact rate of application for all anti-stripping additives will be determined by the Engineer. The method of application shall be according to Article 406.12 of the Standard Specifications."

Revise Article 355.06 of the Standard Specifications to read:

"355.06 Mixture Production. The asphalt cement shall be transferred to the asphalt tanks and heated to a temperature of 120 °C (250 °F) to 175 °C (350 °F). If the loading temperature exceeds 175 °C (350 °F), the asphalt shall not be used until it has cooled to 175 °C (350 °F). Wide variations in temperature which affect the amount of asphalt delivered will not be permitted.

When a hot-mix plant conforming to Article 1102.01 is used, the aggregate shall be dried and heated in the revolving dryer to a temperature of 120 °C (250 °F) to 175 °C (350 °F).

The aggregate and bituminous material used in the bituminous aggregate mixture shall be measured separately and accurately by weight or by volume. When the aggregate is in the mixer, the bituminous material shall be added and mixing continued for a minimum of 30 seconds and until a homogeneous mixture is produced in which all particles of the aggregate are coated. The mixing period, size of the batch and the production rate shall be approved by the Engineer.

The ingredients shall be heated and combined in such a manner as to produce a mixture which, when discharged from the mixer, shall be workable and vary not more 10 °C (20 °F) from the temperature set by the Engineer.

When RAP material(s) is used in the bituminous aggregate mixture, the virgin aggregate(s) shall be dried and heated in the dryer to a temperature that will produce the specified resultant mix temperature when combined with the RAP material.

The heated virgin aggregates and mineral filler shall be combined with RAP material in such a manner as to produce a bituminous mixture which when discharged from the mixer shall not vary more than 15 °C (30 °F) from the temperature set by the Engineer. The combined ingredients shall be mixed for a minimum of 35 seconds and until a homogeneous mixture as to composition and temperature is obtained. The total mixing time shall be a minimum of 45 seconds consisting of dry and wet mixing. Variation in wet and dry mixing times may be permitted, depending on the moisture content and amount of salvaged material used. The mix temperature shall not exceed 175 °C (350 °F). Wide variations in the mixture temperature will be cause for rejection of the mix.

- (a) Personnel. The QC Manager and Level I Technician shall have successfully completed the Department's "Superpave Field Control Course".
- (b) Required Tests. Testing shall be conducted to control the production of the bituminous mixture using the test methods identified and performed at a frequency not less than indicated in the following table.

Parameter	Frequency of Tests Non-Class I Mixtures	Test Method
Aggregate Gradation Hot bins for batch and continuous plants. Individual cold-feeds or combined belt-feed for drier-drum plants. (% passing sieves: 12.5 mm (1/2 in.), 4.75 mm (No. 4), 75 µm (No. 200))	1 gradation per day of production. The first day of production shall be washed ignition oven test on the mix. Thereafter, the testing shall alternate between dry gradation and washed ignition oven test on the mix. The dry gradation and the washed ignition oven test results shall be plotted on the same control chart.	Illinois Procedure (See Manual of Test Procedures for Materials).
Asphalt Content by ignition oven (Note 1.)	1 per day	Illinois-Modified AASHTO T 308
Air Voids		
Bulk Specific Gravity of Gyratory Sample	1 per day	Illinois-Modified AASHTO T 312
Maximum Specific Gravity of Mixture	1 per day	Illinois-Modified AASHTO T 209

Note 1. The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC content calibration factors which exceed 1.5 percent. If the ignition oven requirement is waived, other Department approved methods shall be used to determine AC content.

During production, the ratio of minus 75 µm (#200) sieve material to total asphalt cement shall be not less than 0.6 nor more than 1.6, and the moisture content of the mixture at discharge from the mixer shall not exceed 0.5 percent. If at any time the ratio of minus 75 µm (#200) material to asphalt or moisture content of the mixture falls outside the stated limits, production of the mix shall cease. The cause shall be determined and corrective action satisfactory to the Engineer shall be initiated prior to resumption of production.

During production, mixture containing an anti-stripping additive will be tested by the Engineer for stripping according to Illinois Modified AASHTO T 283. If the mixture fails to meet the TSR criteria for acceptance, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria.

- (c) Control Charts/Limits. Control charts/limits shall be according to QC/QA requirements for Non-Class I Mixtures, except air voids and density shall be plotted on the control charts within the following control limits:

Individual Test Control Limits	
Voids	±1.2%
Density ^{1/}	93.0 – 97.4% of G _{mm}

- 1/ Except when placed as first lift over unimproved subgrade. When the exception applies, the first lift over unimproved subgrade shall be compacted to an average density of not less than 95 percent nor greater than 102 percent of the target density obtained on the growth curve.

Revise Article 355.08 of the Standard Specifications to read:

355.08 Placing. The bituminous mixture shall be placed with a spreading and finishing machine. The minimum compacted thickness of each lift shall be according to the following table:

Nominal Maximum Aggregate Size of Mixture	Minimum Compacted Lift Thickness
CA 10 - 19 mm (3/4 in.)	57 mm (2 1/4 in.)
CA 6 – 25 mm (1 in.)	76 mm (3 in.)

The maximum compacted thickness of each lift shall be 100 mm (4 in.). If the Contractor elects to substitute an approved vibratory roller for one of the required rollers, the maximum compacted thickness of the each lift, excluding the top lift, may be increased to 150 mm (6 in.) provided the required density is obtained.

The surface of each lift shall be clean and dry before succeeding lifts are placed."

Revise Article 355.13 of the Standard Specifications to read:

355.13 Basis of Payment. This work will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS BASE COURSE SUPERPAVE of the thickness specified."

Revise Article 356.02 of the Standard Specifications to read:

356.02 Materials. The materials for the bituminous concrete mixture shall meet the requirements of Article 355.02, be designed according to Article 355.05 and produced according to Article 355.06. Bituminous concrete binder course Superpave mixture IL-25.0 or IL-19.0 meeting the requirements of the special provision, "Superpave Bituminous Concrete Mixtures" may also be used. The minimum compacted lift thickness specified therein shall apply."

Revise the first paragraph of Article 356.06 of the Standard Specifications to read:

"356.06 Base Course Widening. The bituminous concrete mixture shall be transported according to Article 406.14."

Revise the second sentence of the fifth paragraph of Article 356.06 of the Standard Specifications to read:

"The minimum compacted thickness of each lift shall be according to the table shown in Article 355.08."

Revise the first paragraph of Article 356.11 of the Standard Specifications to read:

"356.11 Basis of Payment. Where the Department requires that bituminous concrete be used, this work will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS CONCRETE BASE COURSE WIDENING SUPERPAVE of the thickness specified."

80065

BITUMINOUS CONCRETE SURFACE COURSE (BDE)

Effective: April 1, 2001

Revised: April 1, 2003

Replace the fourth paragraph of Article 406.23(b) of the Standard Specifications with the following:

"Mixture for cracks, joints, flangeways, leveling binder (machine method), leveling binder (hand method) and binder course in excess of 103 percent of the quantity specified by the Engineer will not be measured for payment.

Surface course mixture in excess of 103 percent of adjusted plan quantity will not be measured for payment. The adjusted plan quantity for surface course mixtures will be calculated as follows:

Adjusted Plan Quantity = C x quantity shown on the plans or as specified by the Engineer.

where C = metric: $C = \frac{G_{mb} \times 24.99}{U}$ English: $C = \frac{G_{mb} \times 46.8}{U}$

and where:

G_{mb} = average bulk specific gravity from approved mix design.

U = Unit weight of surface course shown on the plans in kg/sq m/25 mm (lb/sq yd/in.), used to estimate plan quantity.

24.99 = metric constant.

46.8 = English constant.

If project circumstances warrant a new surface course mix design, the above equations shall be used to calculate the adjusted plan quantity for each mix design using its respective average bulk specific gravity."

80050

COARSE AGGREGATE FOR TRENCH BACKFILL, BACKFILL AND BEDDING (BDE)

Effective: April 1, 2001
Revised: November 1, 2003

Revise Article 208.02 of the Standard Specifications to read:

"208.02 Materials. Materials shall be according to the following Articles of Section 1000 – Materials:

- (a) Fine Aggregate (Note 1)..... 1003.04
- (b) Coarse Aggregate (Note 2) 1004.06

Note 1. The fine aggregate shall be moist to the satisfaction of the Engineer.

Note 2. The coarse aggregate shall be wet to the satisfaction of the Engineer."

Revise the first sentence of the second paragraph of subparagraph (b) in Article 208.03 of the Standard Specifications to read:

"Any material meeting the requirements of Articles 1003.04 or 1004.06 which has been excavated from the trenches shall be used for backfilling the trenches."

Add the following to the end of Article 542.02 of the Standard Specifications:

- "(bb) Fine Aggregate (Note 1)..... 1003.04
- (cc) Coarse Aggregate (Note 2) 1004.06

Note 1. The fine aggregate shall be moist to the satisfaction of the Engineer.

Note 2. The coarse aggregate shall be wet to the satisfaction of the Engineer."

Revise the first and second sentences of the second paragraph of subparagraph (a) of Article 542.04 of the Standard Specifications to read:

"The unstable and unsuitable material shall be removed to a depth determined by the Engineer and for a width of one diameter (or equivalent diameter) of the pipe on each side of the pipe culvert, and replaced with aggregate. Rock shall be removed to an elevation 300 mm (1 ft) lower than the bottom of the pipe or to a depth equal to 40 mm/m (1/2 in./ft) of ultimate fill height over the top of the pipe culvert, whichever is the greater depth, and for a width as specified in (b) below, and replaced with aggregate."

Revise the second paragraph of subparagraph (c) of Article 542.04 of the Standard Specifications to read:

"Well compacted aggregate, at least 100 mm (4 in.) in depth below the pipe culvert, shall be placed the entire width of the trench and for the length of the pipe culvert, except well compacted impervious material shall be used for the outer 1 m (3 ft) at each end of the pipe. When the trench has been widened by the removal and replacement of unstable or unsuitable material, the foundation material shall be placed for a width not less than the above specified widths on each side of the pipe. The aggregate and impervious material shall be approved by the Engineer and shall be compacted to the Engineer's satisfaction by mechanical means."

Revise subparagraph (e) of Article 542.04 of the Standard Specifications to read:

"(e) Backfilling. As soon as the condition of the pipe culvert will permit, the entire width of the trench shall be backfilled with aggregate to a height of at least the elevation of the center of the pipe. The aggregate shall be placed longitudinally along the pipe culvert, except at the outer 1 m (3 ft) at each end of the culvert which shall be backfilled with impervious material. The elevation of the backfill material on each side of the pipe shall be the same. The space under the pipe shall be completely filled. The aggregate and impervious material shall be placed in 200 mm (8 in.) layers, loose measurement. When using PVC, PE, or corrugated metal pipe, the aggregate shall be continued to a height of at least 300 mm (1 ft) above the top of the pipe and compacted to a minimum of 85 percent of standard lab density by mechanical means. When reinforced concrete pipes are used and the trench is within 600 mm (2 ft) of the pavement structure, the backfill shall be compacted to a minimum of 85 percent of standard lab density by mechanical means.

When using PVC, PE, or corrugated metal pipe a minimum of 300 mm (1 ft) of cover from the top of the pipe to the top of the subgrade will be required.

The installed pipe and its embedment shall not be disturbed when using movable trench boxes and shields, sheet pile, or other trench protection.

The remainder of the trench shall be backfilled with select material, from excavation or borrow, free from large or frozen lumps, clods or rock, meeting the approval of the Engineer. The material shall be placed in layers not exceeding 200 mm (8 in.) in depth, loose measurement and compacted to 95 percent of the standard laboratory density. Compaction shall be obtained by use of mechanical tampers or with approved vibratory compactors. Before compacting, each layer shall be wetted or dried to bring the moisture content within the limits of 80 to 110 percent of optimum moisture content determined according to AASHTO T 99 (Method C). All backfill material shall be deposited in the trench or excavation in such a manner as not to damage the culvert. The filling of the trench shall be carried on simultaneously on both sides of the pipe.

The Contractor may, at his/her expense, backfill the entire trench with aggregate in lieu of select material. The aggregate shall be compacted to the satisfaction of the Engineer by mechanical means.

The backfill material for all trenches and excavations made in the subgrade of the proposed improvement, and for all trenches outside of the subgrade where the inner edge of the trench is within 600 mm (2 ft) of the edge of the proposed pavement, curb, gutter, curb and gutter, stabilized shoulder, or sidewalk shall be according to Section 208. The trench backfill material shall be compacted to a minimum of 85 percent of standard lab density by mechanical means.

The Contractor may, at his/her expense, backfill the entire trench with controlled low strength material meeting the approval of the Engineer.

When the trench has been widened for the removal and replacement of unstable or unsuitable material, the backfilling with aggregate and impervious material, will be required for a width of at least the specified widths on each side of the pipe. The remaining width of each layer may be backfilled with select material. Each 200 mm (8 in.) layer for the entire trench width shall be completed before beginning the placement of the next layer."

Revise subparagraph (b) of Article 542.05 of the Standard Specifications to read:

"(b) Embankment. Embankment extending to an elevation of 300 mm (1 ft) over the top of the pipe shall be constructed according to Article 542.04(f), except the material up to the elevation of the center of the pipe and extending to a width of at least 450 mm (18 in.) on each side of the pipe, exclusive of the outer 1 m (3 ft) at each end of the pipe, shall consist of aggregate. At the outer 1 m (3 ft) at each end of the culvert, impervious material shall be used."

Add the following paragraph after the first paragraph of Article 542.10 of the Standard Specifications:

"Trench backfill will be measured for payment according to Article 208.03."

Add the following paragraph after the third paragraph of Article 542.11 of the Standard Specifications:

"Trench backfill will be paid for according to Article 208.04."

Add the following to of Article 550.02 of the Standard Specifications:

"(m) Fine Aggregate (Note 2).....	1003.04
(n) Coarse Aggregate (Note 3)	1004.06

Note 2. The fine aggregate shall be moist to the satisfaction of the Engineer.

Note 3. The coarse aggregate shall be wet to the satisfaction of the Engineer."

Revise the first two sentences of the third paragraph of Article 550.04 of the Standard Specifications to read:

"Well compacted, aggregate bedding material at least 100 mm (4 in.) in depth below the pipe, shall be placed for the entire width of the trench and length of the pipe. The aggregate shall be compacted to the satisfaction of the Engineer by mechanical means."

Revise Article 550.07 of the Standard Specifications to read:

"550.07 Backfilling. As soon as the condition of the pipe will permit, the entire width of the trench shall be backfilled with aggregate to a height of at least the elevation of the center of the pipe. The aggregate shall be placed longitudinally along the pipe. The elevation of the backfill material on each side of the pipe shall be the same. The space under the pipe shall be completely filled. The aggregate backfill material shall be placed in 200 mm (8 in.) layers, loose measurement and compacted to the satisfaction of the Engineer by mechanical means. When using PVC pipe, the aggregate shall be continued to a height of at least 300 mm (12 in.) above the top of the pipe.

The installed pipe and its embedment shall not be disturbed when using movable trench boxes and shields, sheet pile, or other trench protection.

The remainder of the trench and excavation shall be backfilled to the natural line or finished surface as rapidly as the condition of the sewer will permit. The backfill material shall consist of suitable excavated material from the trench or of trench backfill as herein specified. All backfill material shall be deposited in the trench or excavation in such a manner as not to damage the sewer and shall be compacted to the satisfaction of the Engineer by mechanical means. The filling of the trench shall be carried on simultaneously on both sides of the pipe.

The backfill material for trenches and excavation made in the subgrade of the proposed improvement, and for all trenches outside of the subgrade where the inner edge of the trench is within 600 mm (2 ft) of the edge of the proposed pavement, curb, gutter, curb and gutter, stabilized shoulder or sidewalk shall be according to Section 208. The backfill material shall be compacted to 85 percent of standard lab density by mechanical means.

All backfill material up to a height of 300 mm (1 ft) above the pipe shall be deposited in uniform layers not exceeding 200 mm (8 in.) thick, loose measurement. The material in each layer shall be compacted to the satisfaction of the Engineer by mechanical means. The

backfilling above this height shall be done according to Method 1, 2 or 3 as described below, with the following exceptions.

When trench backfill or excavated material meeting the requirements of Section 208 is required above the first 300 mm (1 ft) of the pipe, the layers shall not exceed 200 mm (8 in.). Gradations CA6 or CA10 shall not be used with Method 2 or Method 3.

Method 1. The material shall be deposited in uniform layers not exceeding 300 mm (1 ft) thick, loose measurement, and each layer shall be compacted to the satisfaction of the Engineer by mechanical means.

Method 2. The material shall be deposited in uniform layers not exceeding 300 mm (1 ft) thick, loose measurement, and each layer shall be either inundated or deposited in water.

Method 3. The trench shall be backfilled with loose material, and settlement secured by introducing water through holes jetted into the backfill to a point approximately 600 mm (2 ft) above the top of the pipe. The holes shall be spaced as directed by the Engineer but shall be no farther than 2 m (6 ft) apart.

The water shall be injected at a pressure just sufficient to sink the holes at a moderate rate of speed. The pressure shall be such that the water will not cut cavities in the backfill material nor overflow the surface. If water does overflow the surface, it shall be drained into the jetted holes by means of shallow trenches.

Water shall be injected as long as it will be absorbed by the backfill material and until samples taken from test holes in the trench show a satisfactory moisture content. The Contractor shall bore the test holes not more than 15 m (50 ft) apart and at such other locations in the trench designated by the Engineer. As soon as the watersoaking has been completed, all holes shall be filled with soil and compacted by ramming with a tool approved by the Engineer.

Backfill material which has been watersoaked shall be allowed to settle and dry for at least 10 days before any surface course or pavement is constructed on it. The length of time may be altered, if deemed desirable, by the Engineer. Where the inner edge of the trench is within 600 mm (2 ft) of the edge of the proposed pavement, curb, gutter, curb and gutter, stabilized shoulder or sidewalk, the provisions of this paragraph shall also apply.

At the end of the settling and drying period, the crusted top of the backfill material shall be scarified and, if necessary, sufficient backfill material added, as specified in Method 1, to complete the backfilling operations.

The method used for backfilling and compacting the backfill material shall be the choice of the Contractor. If the method used does not produce results satisfactory to the Engineer, the Contractor will be required to alter or change the method being used so the resultant backfill will be satisfactory to the Engineer. Should the Contractor be required to alter or change the

method being used, no additional compensation will be allowed for altering or changing the method.

The Contractor may, at his/her expense, backfill the entire trench with controlled low strength material meeting the approval of the Engineer.

When sheeting and bracing have been used, sufficient bracing shall be left across the trench as the backfilling progresses to hold the sides firmly in place without caving or settlement. This bracing shall be removed as soon as practicable. Any depressions which may develop within the area involved in the construction operation due to settlement of the backfilling material shall be filled in a manner approved by the Engineer.

When the Contractor constructs the trench with sloped or benched sides according to Article 550.04, backfilling for the full width of the excavation shall be as specified, except no additional compensation will be allowed for trench backfill material required outside the vertical limits of the specified trench width.

Whenever excavation is made for installing sewer pipe across earth shoulders or private property, the topsoil disturbed by excavation operations shall be replaced as nearly as possible in its original position, and the whole area involved in the construction operations shall be left in a neat and presentable condition.

When using any PVC pipe, the pipe shall be backfilled with aggregate to 300 mm (1 ft) over the top of the pipe and compacted to a minimum of 85 percent of standard lab density by mechanical means.

When reinforced concrete pipes are used and the trench is within 600 mm (2 ft) of the pavement structure, the backfill shall be compacted to a minimum of 85 percent of standard lab density by mechanical means.

Deflection Testing for Storm Sewers. All PVC storm sewers will be tested for deflection not less than 30 days after the pipe is installed and the backfill compacted.

For PVC storm sewers with diameters 600 mm (24 in.) or smaller, a mandrel drag shall be used for deflection testing. For PVC storm sewers with diameters over 600 mm (24 in.), deflection measurements other than by a mandrel drag shall be used.

Where the mandrel is used, the mandrel shall be furnished by the Contractor and pulled by hand through the pipeline with a suitable rope or cable connected to each end. Winching or other means of forcing the deflection gauge through the pipeline will not be allowed.

The mandrel shall be of a shape similar to that of a true circle enabling the gauge to pass through a satisfactory pipeline with little or no resistance. The mandrel shall be of a design to prevent it from tipping from side to side and to prevent debris build-up from occurring between the channels of the adjacent fins or legs during operation. Each end of the core of the mandrel shall have fasteners to which the pulling cables can be attached. The mandrel shall have 9,

various sized fins or legs of appropriate dimension for various diameter pipes. Each fin or leg shall have a permanent marking that states its designated pipe size and percent of deflection allowable.

The outside diameter of the mandrel shall be 95 percent of the base inside diameter, where the base inside diameter is:

For all PVC pipe (as defined using ASTM D 3034 methodology):

If the pipe is found to have a deflection greater than specified, that pipe section shall be removed, replaced, and retested."

Revise subparagraph (c) of Article 1003.04 of the Standard Specifications to read:

"(c) Gradation. The fine aggregate gradation shall be as follows:

Backfill, bedding and trench backfill for pipe culverts and storm sewers	FA 1, FA 2, FA 6, or FA 21
Porous granular embankment and backfill, french drains, and sand backfill for underdrains	FA 1, FA 2, or FA20 (Note 1)

Note 1: For FA 1, FA 2, and FA 20 the percent passing the 75 µm (No. 200) sieve shall be 2 ± 2."

Revise the title of Article 1004.06 of the Standard Specifications to read:

"Coarse Aggregate for Blotter, Embankment, Backfill, Trench Backfill, French Drains, and Bedding."

Add the following to the end of subparagraph (c) of Article 1004.06 of the Standard Specifications:

"Backfill, bedding, and trench backfill for pipe culverts and storm sewers	CA 6, CA 10, and CA 18"
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80051

CONCRETE ADMIXTURES (BDE)

Effective: January 1, 2003

Revised: July 1, 2004

Revise Article 1020.05(b) of the Standard Specifications to read:

- “(b) Admixtures. Except as specified, the use of admixtures to increase the workability or to accelerate the hardening of the concrete will be permitted only when approved in writing by the Engineer. The Department will maintain an Approved List of Concrete Admixtures. When the Department permits the use of a calcium chloride accelerator, it shall be according to Article 442.02, Note 5.

When the atmosphere or concrete temperature is 18 °C (65 °F) or higher, a retarding admixture meeting the requirements of Article 1021.03 shall be used in the Class BD Concrete and portland cement concrete bridge deck overlays. The amount of retarding admixture to be used will be determined by the Engineer. The proportions of the ingredients of the concrete shall be the same as without the retarding admixture except that the amount of mixing water shall be reduced, as may be necessary, in order to maintain the consistency of the concrete as required. In addition, a high range water-reducing admixture shall be used in Class BD Concrete. The amount of high range water-reducing admixture will be determined by the Engineer. At the option of the Contractor, a water-reducing admixture may be used. Type I cement shall be used.

For Class PC and PS Concrete, a retarding admixture may be added to the concrete mixture when the concrete temperature is 18 °C (65 °F) or higher. Other admixtures may be used when approved by the Engineer, or if specified by the contract. If an accelerating admixture is permitted by the Engineer, it shall be the non-chloride type.

At the Contractor's option, admixtures in addition to an air-entraining admixture may be used for Class PP-1 concrete. The accelerator shall be the non-chloride type. If a water-reducing or retarding admixture is used, the cement factor may be reduced a maximum 18 kg/cu m (0.30 hundredweight/cu yd). If a high range water-reducing admixture is used, the cement factor may be reduced a maximum 36 kg/cu m (0.60 hundredweight/cu yd). Cement factor reductions shall not be cumulative when using multiple admixtures. An accelerator shall always be added prior to a high range water-reducing admixture, if both are used.

If Class C fly ash or ground granulated blast-furnace slag is used in Class PP-1 concrete, a water-reducing or high range water-reducing admixture shall be used. However, the cement factor shall not be reduced if a water-reducing, retarding, or high range water-reducing admixture is used. In addition, an accelerator shall not be used.

For Class PP-2 or PP-3 concrete, a non-chloride accelerator followed by a high range water-reducing admixture shall be used, in addition to the air-entraining admixture. For Class PP-3 concrete, the non-chloride accelerator shall be calcium nitrite.

For Class PP-2 or PP-3 concrete, the Contractor has the option to use a water-reducing admixture. A retarding admixture shall not be used unless approved by the Engineer. A water-reducing, retarding, or high range water-reducing admixture shall not be used to reduce the cement factor.

When the air temperature is less than 13 °C (55 °F) for Class PP-1 or PP-2 concrete, the non-chloride accelerator shall be calcium nitrite.

For Class PP-4 concrete, a high range water-reducing admixture shall be used in addition to the air-entraining admixture. The Contractor has the option to use a water-reducing admixture. An accelerator shall not be used. For stationary or truck mixed concrete, a retarding admixture shall be used to allow for haul time. The Contractor has the option to use a mobile portland cement concrete plant according to Article 1103.04, but a retarding admixture shall not be used unless approved by the Engineer. A water-reducing, retarding, or high range water-reducing admixture shall not be used to reduce the cement factor.

If the Department specifies a calcium chloride accelerator for Class PP-1 concrete, the maximum chloride dosage shall be 1.0 L (1.0 quart) of solution per 45 kg (100 lb) of cement. The dosage may be increased to a maximum 2.0 L (2.0 quarts) per 45 kg (100 lb) of cement if approved by the Engineer. If the Department specifies a calcium chloride accelerator for Class PP-2 concrete, the maximum chloride dosage shall be 1.3 L (1.3 quarts) of solution per 45 kg (100 lb) of cement. The dosage may be increased to a maximum 2.6 L (2.6 quarts) per 45 kg (100 lb) of cement if approved by the Engineer.

For Class PV, MS, SI, RR, SC and SH concrete, at the option of the Contractor, or when specified by the Engineer, a water-reducing admixture or a retarding admixture may be used. The amount of water-reducing admixture or retarding admixture permitted will be determined by the Engineer. The air-entraining admixture and other admixtures shall be added to the concrete separately, and shall be permitted to intermingle only after they have separately entered the concrete batch. The sequence, method and equipment for adding the admixtures shall be approved by the Engineer. The water-reducing admixture shall not delay the initial set of the concrete by more than one hour. Type I cement shall be used.

When a water-reducing admixture is added, a cement factor reduction of up to 18 kg/cu m (0.30 hundredweight/cu yd), from the concrete designed for a specific slump without the admixture, will be permitted for Class PV, MS, SI, RR, SC and SH concrete. When an approved high range water-reducing admixture is used, a cement factor reduction of up to 36 kg/cu m (0.60 hundredweight/cu yd), from a specific water cement/ratio without the admixture, will be permitted based on a 14 percent minimum water reduction. This is applicable to Class PV, MS, SI, RR, SC and SH concrete. A cement factor below 320 kg/cu m (5.35 hundredweight/cu yd) will not be permitted for Class PV, MS, SI, RR, SC and SH concrete. A cement factor reduction will not be

allowed for concrete placed underwater. Cement factor reductions shall not be cumulative when using multiple admixtures.

For use of admixtures to control concrete temperature, refer to Articles 1020.14(a) and 1020.14(b).

The maximum slumps given in Table 1 may be increased to 175 mm (7 in.) when a high range water-reducing admixture is used for all classes of concrete except Class PV and PP."

Revise Section 1021 of the Standard Specifications to read:

"SECTION 1021. CONCRETE ADMIXTURES

1021.01 General. Admixtures shall be furnished in liquid form ready for use. The admixtures may be delivered in the manufacturer's original containers, bulk tank trucks or such containers or tanks as are acceptable to the Engineer. Delivery shall be accompanied by a ticket which clearly identifies the manufacturer and trade name of the material. Containers shall be readily identifiable to the satisfaction of the Engineer as to manufacturer and trade name of the material they contain.

Prior to inclusion of a product on the Department's Approved List of Concrete Admixtures, the manufacturer shall submit a report prepared by an independent laboratory accredited by the AASHTO Accreditation Program. The report shall show the results of physical tests conducted no more than five years prior to the time of submittal, according to applicable specifications.

Tests shall be conducted using materials and methods specified on a "test" concrete and a "reference" concrete, together with a certification that no changes have been made in the formulation of the material since the performance of the tests. Per the manufacturer's option, the cement content for all required tests shall either be according to applicable specifications or 335 kg/cu m (5.65 cwt/cu yd). Compressive strength test results for six months and one year will not be required.

In addition to the report, the manufacturer shall submit AASHTO T 197 water content and set time test results on the standard cement used by the Department. The test and reference concrete mixture shall contain a cement content of 335 kg/cu m (5.65 cwt/cu yd). The manufacturer may select their lab or an independent lab to perform this testing. The laboratory is not required to be accredited by the AASHTO Accreditation Program.

Prior to the approval of an admixture, the Engineer may conduct all or part of the applicable tests on a sample that is representative of the material to be furnished. The test and reference concrete mixtures tested by the Engineer will contain a cement content of 335 kg/cu m (5.65 cwt/cu yd). For freeze-thaw testing, the Department will perform the test according to Illinois Modified AASHTO T 161, Procedure B.

The manufacturer shall include in the submittal the following information according to ASTM C 494; the average and manufacturing range of specific gravity, the average and manufacturing range of solids in the solution, and the average and manufacturing range of pH. The submittal shall also include an infrared spectrophotometer trace no more than five years old.

When test results are more than seven years old, the manufacturer shall re-submit the infrared spectrophotometer trace and the report prepared by an independent laboratory accredited by the AASHTO Accreditation Program.

All admixtures, except chloride-based accelerators, shall contain no more than 0.3 percent chloride by mass (weight).

1021.02 Air-Entraining Admixtures. Air-entraining admixtures shall conform to the requirements of AASHTO M 154.

If the manufacturer certifies that the air-entraining admixture is an aqueous solution of Vinsol resin that has been neutralized with sodium hydroxide (caustic soda), testing for compliance with the requirements may be waived by the Engineer. In the certification, the manufacturer shall show complete information with respect to the formulation of the solution, including the number of parts of Vinsol resin to each part of sodium hydroxide. Before the approval of its use is granted, the Engineer will test the solution for its air-entraining quality in comparison with a solution prepared and kept for that purpose.

1021.03 Retarding and Water-Reducing Admixtures. The admixture shall comply with the following requirements:

- (a) The retarding admixture shall comply with the requirements of AASHTO M 194, Type B (retarding) or Type D (water-reducing and retarding).
- (b) The water-reducing admixture shall comply with the requirements of AASHTO M 194, Type A.
- (c) The high range water-reducing admixture shall comply with the requirements of AASHTO M 194, Type F (high range water-reducing) or Type G (high range water-reducing and retarding).

When a Type F or Type G high range water-reducing admixture is used, water-cement ratios shall be a minimum of 0.32.

Type F or Type G admixtures may be used, subject to the following restrictions:

For Class MS, SI, RR, SC and SH concrete, the water-cement ratio shall be a maximum of 0.44.

The Type F or Type G admixture shall be added at the jobsite unless otherwise directed by the Engineer. The initial slump shall be a minimum of 40 mm (1 1/2 in.)

prior to addition of the Type F or Type G admixture, except as approved by the Engineer.

When a Type F or Type G admixture is used, retempering with water or with a Type G admixture will not be allowed. An additional dosage of a Type F admixture, not to exceed 40 percent of the original dosage, may be used to retemper concrete once, provided set time is not unduly affected. A second retempering with a Type F admixture may be used for all classes of concrete except Class PP and SC, provided that the dosage does not exceed the dosage used for the first retempering, and provided that the set time is not unduly affected. No further retempering will be allowed.

Air tests shall be performed after the addition of the Type F or Type G admixture.

1021.04 Set Accelerating Admixtures. The admixture shall comply with the requirements of AASHTO M 194, Type C (accelerating) or Type E (water reducing and accelerating)"

80094

CURING AND PROTECTION OF CONCRETE CONSTRUCTION (BDE)

Effective: January 1, 2004

Revised: November 1, 2005

Revise the second and third sentences of the eleventh paragraph of Article 503.06 of the Standard Specifications to read:

“Forms on substructure units shall remain in place at least 24 hours. The method of form removal shall not result in damage to the concrete.”

Delete the twentieth paragraph of Article 503.22 of the Standard Specifications.

Revise the “Unit Price Adjustments” table of Article 503.22 of the Standard Specifications to read:

“UNIT PRICE ADJUSTMENTS	
Type of Construction	Percent Adjustment in Unit Price
For concrete in substructures, culverts (having a waterway opening of more than 1 sq m (10 sq ft)), pump houses, and retaining walls (except concrete pilings, footings and foundation seals):	
When protected by:	
Protection Method II	115%
Protection Method I	110%
For concrete in superstructures:	
When protected by:	
Protection Method II	123%
Protection Method I	115%
For concrete in footings:	
When protected by:	
Protection Method I, II or III	107%
For concrete in slope walls:	
When protected by:	
Protection Method I	107%”

Delete the fourth paragraph of Article 504.05(a) of the Standard Specifications.

Revise the second and third sentences of the fifth paragraph of Article 504.05(a) of the Standard Specifications to read:

“All test specimens shall be cured with the units according to Article 1020.13.”

Revise the first paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

“Curing and Low Air Temperature Protection. The curing and protection for precast, prestressed concrete members shall be according to Article 1020.13 and this Article.”

Revise the first sentence of the second paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

"For curing, air vents shall be in place and shall be so arranged that no water can enter the void tubes during the curing of the members."

Revise the first sentence of the third paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

"As soon as each member is finished, the concrete shall be covered with curing material according to Article 1020.13."

Revise the eighth paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

"The prestressing force shall not be transferred to any member before the concrete has attained the compressive strength of 28,000 kPa (4000 psi) or other higher compressive release strength specified on the plans, as determined from tests of 150 mm (6 in.) by 300 mm (12 in.) cylinders cured with the member according to Article 1020.13. Members shall not be shipped until 28-day strengths have been attained and members have a yard age of at least 4 days."

Delete the third paragraph of Article 512.03(a) of the Standard Specifications.

Delete the last sentence of the second paragraph of Article 512.04(d) of the Standard Specifications.

Revise the "Index Table of Curing and Protection of Concrete Construction" table of Article 1020.13 of the Standard Specifications to read:

"INDEX TABLE OF CURING AND PROTECTION OF CONCRETE CONSTRUCTION"			
TYPE OF CONSTRUCTION	CURING METHODS	CURING PERIOD DAYS	LOW AIR TEMPERATURE PROTECTION METHODS
Cast-in-Place Concrete: ^{11/}			
Pavement	1020.13(a)(1)(2)(3)(4)(5) ^{3/5/}	3	1020.13(c)
Shoulder			
Base Course	1020.13(a)(1)(2)(3)(4)(5) ^{1/2/}	3	1020.13(c)
Base Course Widening			
Driveway	1020.13(a)(1)(2)(3)(4)(5) ^{4/5/}	3	1020.13(c) ^{16/}
Median			
Curb			
Gutter			
Curb and Gutter			
Sidewalk			
Slope Wall	1020.13(a)(1)(2)(3)(4)(5) ^{4/}	3	1020.13(c)
Paved Ditch			
Catch Basin			
Manhole			
Inlet			
Valve Vault	1020.13(a)(1)(2)(3)(4)(5) ^{2/}	3 ^{12/}	1020.13(c)
Pavement Patching	1020.13(a)(1)(2)(3)(4)(5) ^{1/2/}	3	442.06(h) and 1020.13(c)
Pavement Replacement	1020.13(a)(3)(5)	1	1020.13(c)
Railroad Crossing	1020.13(a)(3)(5)	7	1020.13(e)(1)(2)(3)
Piles	1020.13(a)(1)(2)(3)(4)(5) ^{4/6/}	7	1020.13(e)(1)(2)(3)
Footings	1020.13(a)(1)(2)(3)(4)(5) ^{1/7/}	7	1020.13(e)(1)(2)(3)
Foundation Seals	1020.13(a)(1)(2)(3)(5) ^{8/}	7	1020.13(e)(1)(2)
Substructure	1020.13(a)(5)	7	1020.13(e)(1)(2) ^{17/}
Superstructure (except deck)	1020.13(a)(1)(2)(3)(4)(5) ^{1/7/}	7	1020.13(e)(1)(2)
Deck	1020.13(a)(1)(2)(3)(4)(5) ^{1/}	7	1020.13(e)(1)(2)
Retaining Walls	1020.13(a)(1)(2)(3)(4)(5) ^{4/6/}	7	1020.13(e)(1)(2) ^{18/}
Pump Houses	1020.13(a)(1)(2)(3)(5)	3	1020.13(c)
Culverts	1020.13(a)(1)(2)(3)(5)	3	1020.13(c)
Other Incidental Concrete	Precast Concrete: ^{11/}		
Bridge Beams	1020.13(a)(3)(5) ^{9/ 10/}	As required. ^{13/}	504.06(c)(6), 1020.13(e)(2) ^{19/}
Piles			
Bridge Slabs	1020.13(a)(3)(4)(5) ^{2/ 9/ 10/}	As required. ^{14/}	504.06(c)(6), 1020.13(e)(2) ^{19/}
Nelson Type Structural Member			
All Other Precast Items	Precast, Prestressed Concrete: ^{11/}		
All Items	1020.13(a)(3)(5) ^{9/ 10/}	Until strand tensioning is released. ^{15/}	504.06(c)(6), 1020.13(e)(2) ^{19/}

Notes-General:

- 1/ Type I, membrane curing only
- 2/ Type II, membrane curing only
- 3/ Type III, membrane curing only
- 4/ Type I, II and III membrane curing
- 5/ Membrane curing will not be permitted between November 1 and April 15.
- 6/ The use of water to inundate footings, foundation seals or the bottom slab of culverts is permissible when approved by the Engineer, provided the water temperature can be maintained at 7 °C (45 °F) or higher.
- 7/ Asphalt Emulsion for Waterproofing may be used in lieu of other curing methods when specified and permitted according to Article 503.18.
- 8/ On non-traffic surfaces which receive protective coat according to Article 503.19, a linseed oil emulsion curing compound may be used as a substitute for protective coat and other curing methods. The linseed emulsion curing compound will be permitted between April 16 and October 31 of the same year, provided it is applied with a mechanical sprayer according to Article 1101.09 (b), and meets the material requirements of Article 1022.07.
- 9/ Steam curing (heat and moisture) is acceptable and shall be accomplished by the method specified in Article 504.06(c)(6).
- 10/ A moist room according to AASHTO M 201 is acceptable for curing.
- 11/ If curing is required and interrupted because of form removal for cast-in-place concrete items, precast concrete products, or precast prestressed concrete products, the curing shall be resumed within two hours from the start of the form removal.
- 12/ Curing maintained only until opening strength is attained, with a maximum curing period of three days.
- 13/ The curing period shall end when the concrete has attained the mix design strength. The producer has the option to discontinue curing when the concrete has attained 80 percent of the mix design strength or after seven days. All strength test specimens shall remain with the units and shall be subjected to the same curing method and environmental condition as the units, until the time of testing.
- 14/ The producer shall determine the curing period or may elect to not cure the product. All strength test specimens shall remain with the units and shall be subjected to the same curing method and environmental condition as the units, until the time of testing.
- 15/ The producer has the option to continue curing after strand release.
- 16/ When structural steel or structural concrete is in place above slope wall, Article 1020.13(c) shall not apply. The protection method shall be according to Article 1020.13(e)(1).
- 17/ When Article 1020.13(e)(2) is used to protect the deck, the housing may enclose only the bottom and sides. The top surface shall be protected according to Article 1020.13(e)(1).
- 18/ For culverts having a waterway opening of 1 sq m (10 sq ft) or less, the culverts may be protected according to Article 1020.13(e)(3).
- 19/ The seven day protection period in the first paragraph of Article 1020.13(e)(2) shall not apply. The protection period shall end when curing is finished. For the third paragraph of Article 1020.13(e)(2), the decrease in temperature shall be according to Article 504.06(c)(6)."

Add the following to Article 1020.13(a) of the Standard Specifications:

"(5) Wetted Cotton Mat Method. After the surface of concrete has been textured or finished, it shall be covered immediately with dry cotton mats. The cotton mats shall be placed in a manner which will not mar the concrete surface. A texture resulting from the cotton mat material is acceptable. The cotton mats shall then be wetted immediately and thoroughly soaked with a gentle spray of water. For bridge decks, a foot bridge shall be used to place and wet the cotton mats.

The cotton mats shall be maintained in a wetted condition until the concrete has hardened sufficiently to place soaker hoses without marring the concrete surface. The soaker hoses shall be placed on top of the cotton mats at a maximum 1.2 m (4 ft) spacing. The cotton mats shall be kept wet with a continuous supply of water for the remainder of the curing period. Other continuous wetting systems may be used if approved by the Engineer.

After placement of the soaker hoses, the cotton mats shall be covered with white polyethylene sheeting or burlap-polyethylene blankets.

For construction items other than bridge decks, soaker hoses or a continuous wetting system will not be required if the alternative method keeps the cotton mats wet. Periodic wetting of the cotton mats is acceptable.

For areas inaccessible to the cotton mats on bridge decks, curing shall be according to Article 1020.13(a)(3)."

Revise the first paragraph of Article 1020.13(c) of the Standard Specifications to read:

"Protection of Portland Cement Concrete, Other Than Structures, From Low Air Temperatures. When the official National Weather Service forecast for the construction area predicts a low of 0 °C (32 °F), or lower, or if the actual temperature drops to 0 °C (32 °F), or lower, concrete less than 72 hours old shall be provided at least the following protection:"

Delete Article 1020.13(d) and Articles 1020.13(d)(1),(2),(3),(4) of the Standard Specifications.

Revise the first five paragraphs of Article 1020.13(e) of the Standard Specifications to read:

"Protection of Portland Cement Concrete Structures From Low Air Temperatures. When the official National Weather Service Forecast for the construction area predicts a low below 7 °C (45 °F), or if the actual temperature drops below 7 °C (45 °F), concrete less than 72 hours old shall be provided protection. Concrete shall also be provided protection when placed during the winter period of December 1 through March 15. Concrete shall not be placed until the materials, facilities, and equipment for protection are approved by the Engineer.

When directed by the Engineer, the Contractor may be required to place concrete during the winter period. If winter construction is specified, the Contractor shall proceed with the construction, including concrete, excavation, pile driving, steel erection, and all appurtenant work required for the complete construction of the item, except at times when weather conditions make such operations impracticable.

Regardless of the precautions taken, the Contractor shall be responsible for protection of the concrete placed and any concrete damaged by cold temperatures shall be removed and replaced at no additional cost to the Department."

Add the following at the end of the third paragraph of Article 1020.13(e)(1) of the Standard Specifications:

"The Contractor shall provide means for checking the temperature of the surface of the concrete during the protection period."

Revise the second sentence of the first paragraph of Article 1020.13(e)(2) of the Standard Specifications to read:

"The Contractor shall provide means for checking the temperature of the surface of the concrete or air temperature within the housing during the protection period."

Delete the last sentence of the first paragraph of Article 1020.13(e)(3) of the Standard Specifications.

Add the following Article to Section 1022 of the Standard Specifications:

"1022.06 Cotton Mats. Cotton mats shall consist of a cotton fill material, minimum 400 g/sq m (11.8 oz/sq yd), covered with unsized cloth or burlap, minimum 200 g/sq m (5.9 oz/sq yd), and be tufted or stitched to maintain stability.

Cotton mats shall be in a condition satisfactory to the Engineer. Any tears or holes in the mats shall be repaired."

Add the following Article to Section 1022 of the Standard Specifications:

"1022.07 Linseed Oil Emulsion Curing Compound. Linseed oil emulsion curing compound shall be composed of a blend of boiled linseed oil and high viscosity, heavy bodied linseed oil emulsified in a water solution. The curing compound shall meet the requirements of a Type I according to Article 1022.01, except the drying time requirement will be waived. The oil phase shall be 50 ± 4 percent by volume. The oil phase shall consist of 80 percent by mass (weight) boiled linseed oil and 20 percent by mass (weight) Z-8 viscosity linseed oil. The water phase shall be 50 ± 4 percent by volume."

Revise Article 1020.14 of the Standard Specifications to read:

1020.14 Temperature Control for Placement. Temperature control for concrete placement shall be according to the following.

- (a) Temperature Control other than Structures. The temperature of the concrete immediately before placement shall be a minimum of 10 °C (50 °F) and a maximum of 32 °C (90 °F). Aggregates and/or water shall be heated or cooled as necessary to produce concrete within these temperature limits.

When the temperature of the plastic concrete reaches 30 °C (85 °F), an approved retarding admixture shall be used or the approved water reducing admixture in use shall have its dosage increased by 50 percent over the dosage recommended on the Department's Approved List of Concrete Admixtures for the temperature experienced. The amount of retarding admixture to be used will be determined by the Engineer. This requirement may be waived by the Engineer when fly ash compensated mixtures are used.

Plastic concrete temperatures up to 35 °C (96 °F), as placed, may be permitted provided job site conditions permit placement and finishing without excessive use of water on and/or overworking of the surface. The occurrence within 24 hours of unusual surface distress shall be cause to revert to a maximum 32 °C (90 °F) plastic concrete temperature.

Concrete shall not be placed when the air temperature is below 5 °C (40 °F) and falling or below 2 °C (35 °F), without permission of the Engineer. When placing of concrete is authorized during cold weather, the Engineer may require the water and/or the aggregates to be heated to between 20 °C (70 °F) and 65 °C (150 °F). The aggregates may be heated by either steam or dry heat prior to being placed in the mixer. The apparatus used shall heat the mass uniformly and shall be so arranged as to preclude the possible occurrence of overheated areas which might damage the materials. No frozen aggregates shall be used in the concrete.

For pavement patching, refer to Article 442.06(e) for additional information on temperature control for placement.

- (b) Temperature Control for Structures. The temperature of the concrete, as placed in the forms, shall be a minimum of 10 °C (50 °F) and a maximum of 32 °C (90 °F). Aggregates and/or water shall be heated or cooled as necessary to produce concrete within these temperature limits. When insulated forms are used, the temperature of the concrete mixture shall not exceed 25 °C (80 °F). If the Engineer determines that heat of hydration might cause excessive temperatures in the concrete, the concrete shall be placed at a temperature between 10 °C (50 °F) and 15 °C (60 °F). When concrete is placed in contact with previously placed concrete, the temperature of the concrete may be increased as required to offset anticipated heat loss.

Concrete shall not be placed when the air temperature is below 7 °C (45 °F) and falling or below 4 °C (40 °F), without permission of the Engineer. When placing of concrete is authorized during cold weather, the Engineer may require the water and/or the aggregates to be heated to between 20 °C (70 °F) and 65 °C (150 °F). The aggregates may be heated by either steam or dry heat prior to being placed in the mixer. The apparatus used shall heat the mass uniformly and shall be so arranged as to preclude the possible occurrence of overheated areas which might damage the materials. No frozen aggregates shall be used in the concrete.

When the temperature of the plastic concrete reaches 30 °C (85 °F), an approved retarding admixture shall be used or the approved water reducing admixture in use shall have its dosage increased by 50 percent over the dosage recommended on the Department's Approved List of Concrete Admixtures for the temperature experienced. The amount of retarding admixture to be used will be determined by the Engineer. This requirement may be waived by the Engineer when fly ash compensated mixtures are used.

- (c) Temperature. The concrete temperature shall be determined according to ASTM C 1064."

80114

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION

Effective: September 1, 2000

Revised: June 22, 2005

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% 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% 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 _____% 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.state.il.us.

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 (7) working days after the date of letting. To meet the seven (7) day requirement, the bidder may send the Plan by certified mail or delivery service within the seven (7) 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 (7) 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 (7) 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 (5) 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% 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% 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% 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% 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% goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
 - (2) 100% goal credit for the cost of materials or supplies obtained from a DBE manufacturer.
 - (3) 100% 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 (5) 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 (5) 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 (10) 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 (30) 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.

EPOXY COATING ON REINFORCEMENT (BDE)

Effective: April 1, 1997

Revised: January 1, 2003

For work outside the limits of bridge approach pavement, all references to epoxy coating in the Highway Standards and Standard Specifications for reinforcement, tie bars and chair supports will not apply for pavement, shoulders, curb, gutter, combination curb and gutter and median.

31578

EROSION AND SEDIMENT CONTROL DEFICIENCY DEDUCTION (BDE)

Effective: August 1, 2001

Revised: November 1, 2001

When the Engineer is notified or determines an erosion and/or sediment control deficiency(s) exists, he/she will direct the Contractor in writing to correct the deficiency. The Contractor shall then correct the deficiency within 24 hours. The 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.

If the Contractor fails to correct the deficiency(s) within 24 hours, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency exists. The time period will begin with the initial written notification to the Contractor and end with the Engineer's acceptance of the corrected work. The per calendar day deduction will be either \$1000.00 or 0.05 percent of the awarded contract value, whichever is greater.

If the Contractor fails to respond, the Engineer may correct the deficiencies and deduct the cost from monies due or which may become due the Contractor. This corrective action shall in no way relieve the Contractor of his/her contractual requirements or responsibilities.

80055

EXPANSION JOINTS (BDE)

Effective: August 1, 2003

Add the following paragraph after the second paragraph of Article 420.10(e) of the Standard Specifications:

"After the dowel bars are oiled, plastic expansion caps shall be secured to the bars maintaining a minimum expansion gap of 50 mm (2 in.) between the end of the bar and the end of the cap. The caps shall fit snugly on the bar and the closed end shall be watertight. For expansion joints formed using dowel bar basket assemblies, the caps shall be installed on the alternating free ends of the bars. For expansion joints formed using a construction header, the caps shall be installed on the exposed end of each bar once the header has been removed and the joint filler material has been installed."

80103

FLAGGER VESTS (BDE)

Effective: April 1, 2003

Revised: January 1, 2006

Revise the first sentence of Article 701.04(c)(1) of the Standard Specifications to read:

“The flagger shall be stationed to the satisfaction of the Engineer and be equipped with a fluorescent orange, fluorescent yellow/green or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of the American National Standards Institute specification ANSI/ISEA 107-2004 for Conspicuity Class 2 garments and approved flagger traffic control signs conforming to Standard 702001 and Article 702.05(e).”

Revise Article 701.04(c)(6) of the Standard Specifications to read:

“(6) Nighttime Flagging. Flaggers shall be illuminated by an overhead light source providing a minimum vertical illuminance of 108 lux (10 fc) measured 300 mm (1 ft) out from the flagger’s chest. The bottom of any luminaire shall be a minimum of 3 m (10 ft) above the pavement. Luminaire(s) shall be shielded to minimize glare to approaching traffic and trespass light to adjoining properties.

The flagger vest shall be a fluorescent orange or fluorescent orange and fluorescent yellow/green vest meeting the requirements of the American National Standards Institute specification ANSI/ISEA 107-1999 for Conspicuity Class 3 garments.”

80101

FREEZE-THAW RATING (BDE)

Effective: November 1, 2002

Revise the first sentence of Article 1004.02(f) of the Standard Specifications to read:

“When coarse aggregate is used to produce portland cement concrete for base course, base course widening, pavement, driveway pavement, sidewalk, shoulders, curb, gutter, combination curb and gutter, median, paved ditch or their repair using concrete, the gradation permitted will be determined from the results of the Department’s Freeze-Thaw Test.”

80079

HAND VIBRATOR (BDE)

Effective: November 1, 2003

Add the following paragraph to Article 1103.17(a) of the Standard Specifications:

"The vibrator shall have a non-metallic head for areas containing epoxy coated reinforcement. The head shall be coated by the manufacturer. The hardness of the non-metallic head shall be less than the epoxy coated reinforcement, resulting in no damage to the epoxy coating. Slip-on covers will not be allowed."

80054

IMPACT ATTENUATORS (BDE)

Effective: November 1, 2003

Description. This work shall consist of furnishing and installing impact attenuators of the category and test level specified.

Materials. Materials shall meet the requirements of the impact attenuator manufacturer and the following:

Item	Article/Section
(a) Fine Aggregate (Note 1).....	1003.01
(b) Steel Posts, Structural Shapes, and Plates	1006.04
(c) Rail Elements, End Section Plates, and Splice Plates	1006.25
(d) Bolts, Nuts, Washers and Hardware	1006.25
(e) Hollow Structural Tubing	1006.27(b)
(f) Wood Posts and Wood Blockouts.....	1007.01, 1007.02, 1007.06
(g) Preservative Treatment	1007.12

Note 1. Fine aggregate shall be FA-1 or FA-2, Class A quality. The sand shall be unbagged and shall have a maximum moisture content of five percent.

CONSTRUCTION REQUIREMENTS

General. Impact attenuators shall meet the testing criteria contained in National Cooperative Highway Research Program (NCHRP) Report 350 for the test level specified and shall be on the Department's approved list. Fully redirective and partially redirective attenuators shall also be designed for bi-directional impacts.

Installation. Regrading of slopes or approaches for the installation shall be as shown on the plans.

Attenuator bases, when required by the manufacturer, shall be constructed on a prepared subgrade according to the manufacturer's specifications. The surface of the base shall be slightly sloped or crowned to facilitate drainage. For sand modules, the perimeter of each module and the specified mass (weight) of sand in each module shall be painted on the surface of the base.

Impact attenuators shall be installed according to the manufacturer's specifications and include all necessary transitions between the impact attenuator and the item to which it is attached.

Method of Measurement. This work will be measured for payment as each, where each is defined as one complete installation.

Basis of Payment. This work, will be paid for at the contract unit price per each for IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW); IMPACT ATTENUATORS (FULLY

REDIRECTIVE, WIDE); IMPACT ATTENUATORS (SEVERE USE, NARROW); IMPACT ATTENUATORS (SEVERE USE, WIDE); IMPACT ATTENUATORS (PARTIALLY REDIRECTIVE); or IMPACT ATTENUATORS (NON-REDIRECTIVE), of the test level specified.

Regrading of slopes or approaches will be paid for according to Section 202 and/or Section 204 of the Standard Specifications.

80109

IMPACT ATTENUATORS, TEMPORARY (BDE)

Effective: November 1, 2003

Revised: April 1, 2004

Description. This work shall consist of furnishing, installing, maintaining, and removing temporary impact attenuators of the category and test level specified.

Materials. Materials shall meet the requirements of the impact attenuator manufacturer and the following:

Item	Article/Section
(a) Fine Aggregate (Note 1)	1003.01
(b) Steel Posts, Structural Shapes, and Plates	1006.04
(c) Rail Elements, End Section Plates, and Splice Plates	1006.25
(d) Bolts, Nuts, Washers and Hardware	1006.25
(e) Hollow Structural Tubing	1006.27(b)
(f) Wood Posts and Wood Blockouts.....	1007.01, 1007.02, 1007.06
(g) Preservative Treatment	1007.12
(h) Rapid Set Mortar (Note 2)	

Note 1. Fine aggregate shall be FA-1 or FA-2, Class A quality. The sand shall be unbagged and shall have a maximum moisture content of five percent.

Note 2. Rapid set mortar shall be obtained from the Department's approved list of Packaged, Dry, Rapid Hardening Cementitious Materials for Concrete Repairs. For a rapid set mortar mixture, one part packaged rapid set cement shall be combined with two parts fine aggregate, by volume or a packaged rapid set mortar shall be used. Mixing of the rapid set mortar shall be according to the manufacturer's instructions.

CONSTRUCTION REQUIREMENTS

General. Impact Attenuators shall meet the testing criteria contained in National Cooperative Highway Research Program (NCHRP) Report 350 for the test level specified and shall be on the Department's approved list.

Installation. Regrading of slopes or approaches for the installation shall be as shown on the plans.

Attenuator bases, when required by the manufacturer, shall be constructed on a prepared subgrade according to the manufacturer's specifications. The surface of the base shall be slightly sloped or crowned to facilitate drainage.

Impact attenuators shall be installed according to the manufacturer's specifications and include all necessary transitions between the impact attenuator and the item to which it is attached.

When water filled attenuators are used between November 1 and April 15, they shall contain anti-freeze according to the manufacturer's recommendations.

Markings. Sand module impact attenuators shall be striped with alternating reflectorized Type AA or Type AP fluorescent orange and reflectorized white horizontal, circumferential stripes. There shall be at least two of each stripe on each module.

Other types of impact attenuators shall have a terminal marker applied to their nose and reflectors along their sides.

Maintenance. All maintenance of the impact attenuators shall be the responsibility of the Contractor until removal is directed by the Engineer.

Relocate. When relocation of temporary impact attenuators is specified, they shall be removed, relocated and reinstalled at the new location. The reinstallation requirements shall be the same as those for a new installation.

Removal. When the Engineer determines the temporary impact attenuators are no longer required, the installation shall be dismantled with all hardware becoming the property of the Contractor.

Surplus material shall be disposed of according to Article 202.03. Anti-freeze, when present, shall be disposed of/recycled according to local ordinances.

When impact attenuators have been anchored to the pavement, the anchor holes shall be repaired with rapid set mortar. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.

Method of Measurement. This work will be measured for payment as each, where each is defined as one complete installation.

Basis of Payment. This work will be paid for at the contract unit price per each for IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW); IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, WIDE); IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW); IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE); or IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) of the test level specified.

Relocation of the devices will be paid for at the contract unit price per each for IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE); IMPACT ATTENUATORS, RELOCATE (SEVERE USE); or IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE); of the test level specified.

Regrading of slopes or approaches will be paid for according to Section 202 and/or Section 204 of the Standard Specifications.

80110

PARTIAL PAYMENTS (BDE)

Effective: September 1, 2003

Revise Article 109.07 of the Standard Specifications to read:

"109.07 Partial Payments. Partial payments will be made as follows:

- (a) **Progress Payments.** At least once each month, the Engineer will make a written estimate of the amount of work performed in accordance with the contract, and the value thereof at the contract unit prices. The amount of the estimate approved as due for payment will be vouchered by the Department and presented to the State Comptroller for payment. No amount less than \$1000.00 will be approved for payment other than the final payment.

The failure to perform any requirement, obligation, or term of the contract by the Contractor shall be reason for withholding any progress payments until the Department determines that compliance has been achieved. Furthermore, progress payments may be reduced by liens filed pursuant to Section 23(c) of the Mechanics Lien Act, 770 ILCS 60/23(c).

- (b) **Material Allowances.** At the discretion of the Department, payment may be made for materials, prior to their use in the work, when satisfactory evidence is presented by the Contractor. Satisfactory evidence includes justification for the allowance (to expedite the work, meet project schedules, regional or national material shortages, etc.), documentation of material and transportation costs, and evidence that such material is properly stored on the project or at a secure location acceptable and accessible to the Department.

Material allowances will be considered only for nonperishable materials when the cost, including transportation, exceeds \$10,000 and such materials are not expected to be utilized within 60 days of the request for the allowance. For contracts valued under \$500,000, the minimum \$10,000 requirement may be met by combining the principal (material) product of no more than two contract items. An exception to this two item limitation may be considered for any contract regardless of value for items in which material (products) are similar except for type and/or size.

Material allowances shall not exceed the value of the contract items in which used and shall not include the cost of installation or related markups. Amounts paid by the Department for material allowances will be deducted from estimates due the Contractor as the material is used. Two-sided copies of the Contractor's cancelled checks for materials and transportation must be furnished to the Department within 60 days of payment of the allowances or the amounts will be reclaimed by the Department."

80116

PAYMENTS TO SUBCONTRACTORS (BDE)

Effective: June 1, 2000

Revised: September 1, 2003

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 no later than 30 days from the receipt of each payment made to the Contractor,

Deleted: within a specific number of days after receipt of each payment made to the Contractor, and to require the prompt return of retainage withheld from subcontractors

State law addresses the timing of payments to be made to subcontractors. Section 7 of the Prompt Payment Act, 30 ILCS 540/7, generally requires that when a Contractor receives any payment from the Department, the Contractor is required to make corresponding, proportional payments to each subcontractor performing work within 15 calendar days after receipt of the state payment. Section 7 of the State Prompt Payment Act further provides that interest in the amount of 2% per month, in addition to the payment due, shall be paid to any subcontractor 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 throughout the contracting chain.

This Special Provision establishes the required federal contract clause, and adopts the 15 calendar day requirement of the Act for purposes of compliance with the federal regulation regarding payments to subcontractors. This contract is subject to the following payment obligations.

As progress payments are made to the Contractor in accordance with Article 109.07 of the Standard Specifications for Road and Bridge Construction, the Contractor shall make a corresponding partial payment within 15 calendar days to each subcontractor in proportion to the work satisfactorily completed by each subcontractor. The proportionate amount of partial payment due to each subcontractor 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 shall be paid in full within 15 calendar days after the subcontractor's work has been satisfactorily completed. The Contractor shall hold no retainage from the subcontractors.

Deleted: partial

Deleted: partial

Deleted: , including the return of any retainage previously withheld,

This Special Provision does not create any rights in favor of any subcontractor against the State of Illinois or authorize any cause of action against the State of Illinois on account of any payment, nonpayment, delayed payment or interest claimed by application of the State Prompt Payment Act. The Department will neither determine the reasonableness of any cause for delay of payment nor enforce any claim to payment, including interest. Moreover, the Department will not approve any delay or postponement of the 15 day requirement. State law creates 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 in accordance with the Public Construction Bond Act, 30 ILCS 550.

80022

PAYROLLS AND PAYROLL RECORDS (BDE)

Effective: August 10, 2005

FEDERAL AID CONTRACTS. Add the following State of Illinois requirements to the Federal requirements contained in Section V of Form FHWA-1273:

"The payroll records shall include each worker's name, address, telephone number, social security number, classification, rate of pay, number of hours worked each day, starting and ending times of work each day, total hours worked each week, itemized deductions made, and actual wages paid.

The Contractor and each subcontractor shall submit payroll records to the Engineer each week from the start to the completion of their respective work. The submittals shall be on the Department's form SBE 48, or an approved facsimile. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate box ("No Work", "Suspended", or "Complete") checked on the form."

STATE CONTRACTS. Revise Section IV of Check Sheet #5 of the Recurring Special Provisions to read:

"IV.COMPLIANCE WITH THE PREVAILING WAGE ACT

1. **Prevailing Wages.** All wages paid by the Contractor and each subcontractor shall be in compliance with The Prevailing Wage Act (820 ILCS 130), as amended, except where a prevailing wage violates a federal law, order, or ruling, the rate conforming to the federal law, order, or ruling shall govern. The Contractor shall be responsible to notify each subcontractor of the wage rates set forth in this contract and any revisions thereto. If the Department of Labor revises the wage rates, the Contractor will not be allowed additional compensation on account of said revisions.
2. **Payroll Records.** The Contractor and each subcontractor shall make and keep, for a period of three years from the date of completion of this contract, records of the wages paid to his/her workers. The payroll records shall include each worker's name, address, telephone number, social security number, classification, rate of pay, number of hours worked each day, starting and ending times of work each day, total hours worked each week, itemized deductions made, and actual wages paid. Upon two business days' notice, these records shall be available, at all reasonable hours at a location within the State, for inspection by the Department or the Department of Labor.
3. **Submission of Payroll Records.** The Contractor and each subcontractor shall submit payroll records to the Engineer each week from the start to the completion of their respective work. The submittals shall be on the Department's form SBE 48, or an approved facsimile. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate box ("No Work", "Suspended", or "Complete") checked on the form.

Each submittal shall be accompanied by a statement signed by the Contractor or subcontractor which avers that: (i) such records are true and accurate; (ii) the hourly rate paid to each worker is not less than the general prevailing rate of hourly wages required by the Act; and (iii) the Contractor or subcontractor is aware that filing a payroll record that he/she knows to be false is a Class B misdemeanor.

4. Employee Interviews. The Contractor and each subcontractor shall permit his/her employees to be interviewed on the job, during working hours, by compliance investigators of the Department or the Department of Labor."

80155

PERSONAL PROTECTIVE EQUIPMENT (BDE)

Effective: July 1, 2004

All personnel, excluding flaggers, working outside of a vehicle (car or truck) within 7.6 m (25 ft) of pavement open to traffic shall wear a fluorescent orange, fluorescent yellow/green or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of the American National Standards Institute specification ANSI/ISEA 107-1999 for Conspicuity Class 2 garments. Other types of garments may be substituted for the vest as long as the garments have manufacturers tags identifying them as meeting the ANSI Class 2 requirement.

80130

PLASTIC BLOCKOUTS FOR GUARDRAIL (BDE)

Effective: November 1, 2004

Add the following to Article 630.02 of the Standard Specifications:

“(h) Plastic Blockouts (Note 1.)

Note 1. Plastic blockouts, 150 mm (6 in.) deep, may be used in lieu of 150 mm (6 in.) deep wood block-outs for steel plate beam guardrail. The plastic blockouts shall be on the Department’s approved list.”

80134

POLYUREA PAVEMENT MARKING (BDE)

Effective: April 1, 2004

Description. This work shall consist of furnishing and applying pavement marking lines.

The type of polyurea pavement marking applied will be determined by the type of reflective media used. Polyurea Pavement Marking Type I shall use glass beads as a reflective media. Polyurea Pavement Marking Type II shall use a combination of composite reflective elements and glass beads as a reflective media.

Polyurea-based liquid pavement markings shall only be applied by Contractors on the list of Approved Polyurea Contractors maintained by the Engineer of Operations and in effect on the date of advertisement for bids.

Materials. Materials shall meet the following requirements:

- (a) Polyurea Pavement Marking. The polyurea pavement marking material shall consist of 100 percent solid two part system formulated and designed to provide a simple volumetric mixing ratio of two components (must be two or three volumes of Part A to one volume of Part B). No volatile or polluting solvents or fillers will be allowed.
- (b) Pigmentation. The pigment content by weight of component A shall be determined by low temperature ashing according to ASTM D 3723. The pigment content shall not vary more than \pm two percent from the pigment content of the original qualified paint.

White Pigment shall be Titanium Dioxide meeting ASTM D 476 Type II, Rutile.

Yellow Pigment shall be an Organic Yellow and contain no heavy metals.

- (c) Environmental. Upon heating to application temperature, the material shall not exude fumes which are toxic or injurious to persons or property.
- (d) Daylight Reflectance. The daylight directional reflectance of the cured polyurea material (without reflective media) shall be a minimum of 80 percent (white) and 50 percent (yellow) relative to magnesium oxide when tested using a color spectrophotometer with a 45 degrees circumferential /zero degrees geometry, illuminant C, and two degrees observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm. In addition, the color of the yellow polyurea shall visually match Color Number 33538 of Federal Standard 595a with chromaticity limits as follows:

X	0.490	0.475	0.485	0.539
Y	0.470	0.438	0.425	0.456

- (e) Weathering Resistance. The polyurea marking material, when mixed in the proper ratio and applied at 0.35 to 0.41 mm (14 to 16 mils) wet film thickness to an aluminum alloy panel (Federal Test Std. No. 141, Method 2013) and allowed to cure for 72 hours at room temperature, shall be subjected to accelerated weathering for 75 hours. The

accelerated weathering shall be completed by using the light and water exposure apparatus (fluorescent UV - condensation type) and tested according to ASTM G 53.

The cycle shall consist of four hours UV exposure at 50 °C (122 °F) and four hours of condensation at 40 °C (104 °F). UVB 313 bulbs shall be used. At the end of the exposure period, the material shall show no substantial change in color or gloss.

(f) Dry Time. The polyurea pavement marking material, when mixed in the proper ratio and applied at 0.35 to 0.41 mm (14 to 16 mils) wet film thickness and with the proper saturation of reflective media, shall exhibit a no-tracking time of ten minutes or less when tested according to ASTM D 711.

(g) Adhesion. The catalyzed polyurea pavement marking materials when applied to a 100 x 100 x 50 mm (4 x 4 x 2 in.) concrete block, shall have a degree of adhesion which results in a 100 percent concrete failure in the performance of this test.

The concrete block shall be brushed on one side and have a minimum strength of 24,100 kPa (3500 psi). A 50 mm (2 in.) square film of the mixed polyurea shall be applied to the brushed surface and allowed to cure for 72 hours at room temperature. A 50 mm (2 in.) square cube shall be affixed to the surface of the polyurea by means of an epoxy glue. After the glue has cured for 24 hours, the polyurea specimen shall be placed on a dynamic testing machine in such a fashion so that the specimen block is in a fixed position and the 50 mm (2 in.) cube (glued to the polyurea surface) is attached to the dynamometer head. Direct upward pressure shall be slowly applied until the polyurea system fails. The location of the break and the amount of concrete failure shall be recorded.

(h) Hardness. The polyurea pavement marking materials when tested according to ASTM D 2240, shall have a shore D hardness of between 70 and 100. Films shall be cast on a rigid substrate at 0.35 to 0.41 mm (14 to 16 mils) in thickness and allowed to cure at room temperature for 72 hours before testing.

(i) Abrasion. The abrasion resistance shall be evaluated according to ASTM D 4060 using a Taber Abrader with a 1,000 gram load and CS 17 wheels. The duration of the test shall be 1,000 cycles. The loss shall be calculated by difference and be less than 120 mgs. The tests shall be run on cured samples of polyurea material which have been applied at a film thickness of 0.35 to 0.41 mm (14 to 16 mils) to code S-16 stainless steel plates. The films shall be allowed to cure at room temperature for at least 72 hours and not more than 96 hours before testing.

(j) Reflective Media. The reflective media shall meet the following requirements:

(1) Type I - The glass beads shall meet the requirements of Article 1095.07 of the Standard Specifications and the following requirements:

a. First Drop Glass Beads The first drop glass beads shall be tested by the standard visual method of large glass spheres adopted by the Department. The beads shall have a silane coating and meet the following sieve requirements:

Sieve Size	U.S. Standard Sieve Number	% Passing (By Weight)
1.70 mm	12	95-100
1.40 mm	14	75-95
1.18 mm	16	10-47
1.00 mm	18	0-7
850 µm	20	0-5

- b. Second Drop Glass Beads. The second drop glass beads shall meet the requirements of Article 1095.07 of the Standard Specifications for Type B.
- (2) Type II - The combination of microcrystalline ceramic elements and glass beads shall meet the following requirements:
- a. First Drop Glass Beads. The first drop glass beads shall meet the following requirements:
1. Composition. The elements shall be composed of a titania opacified ceramic core having clear and or yellow tinted microcrystalline ceramic beads embedded to the outer surface.
 2. Index of Refraction. All microcrystalline reflective elements embedded to the outer surface shall have an index of refraction of 1.8 when tested by the immersion method.
 3. Acid Resistance. A sample of microcrystalline ceramic beads supplied by the manufacturer, shall show resistance to corrosion of their surface after exposure to a one percent solution (by weight) of sulfuric acid. Adding 5.7 ml (0.2 oz) of concentrated acid into the water shall make the one percent acid solution. This test shall be performed by taking a 25 x 50 mm (1 x 2 in.) sample and adhering it to the bottom of a glass tray and placing just enough acid solution to completely immerse the sample. The tray shall be covered with a piece of glass to prevent evaporation and allow the sample to be exposed for 24 hours under these conditions. The acid solution shall be decanted (do not rinse, touch, or otherwise disturb the bead surfaces) and the sample dried while adhered to the glass tray in a 66 °C (150 °F) oven for approximately 15 minutes. Microscope examination (20X) shall show no white (corroded) layer on the entire surface.
- b. Second Drop Glass Beads. The second drop glass beads shall meet the requirements of Article 1095.07 of the Standard Specifications for Type B or the following manufacturer's specification:
1. Sieve Analysis. The glass beads shall meet the following sieve requirements:

Sieve Size	U.S. Standard Sieve Number	% Passing (By Weight)
850 μm	20	100
600 μm	30	75-95
300 μm	50	15-35
150 μm	100	0-5

The manufacturer of the glass beads shall certify that the treatment of the glass beads meets the requirements of the polyurea manufacturer.

2. Imperfections. The surface of the glass beads shall be free of pits and scratches. The glass beads shall be spherical in shape and shall contain a maximum of 20 percent by weight of irregular shapes when tested by the standard method using a vibratile inclined glass plate as adopted by the Department.
 3. Index of Refraction. The index of refraction of the glass beads shall be a minimum of 1.50 when tested by the immersion method at 25 °C (77 °F).
- (k) Packaging. Microcrystalline ceramic reflective elements and glass beads shall be delivered in approved moisture proof bags or weather resistant bulk boxes. Each carton shall be legibly marked with the manufacturer, specifications and type, lot number, and the month and year the microcrystalline ceramic reflective elements and/or glass beads were packaged. The letters and numbers used in the stencils shall be a minimum of 12.7 mm (1/2 in.) in height.
- (1) Moisture Proof Bags. Moisture proof bags shall consist of at least five ply paper construction unless otherwise specified. Each bag shall contain 22.7 kg (50 lb) net.
 - (2) Bulk Weather Resistance Boxes. Bulk weather resistance boxes shall conform to Federal Specification PPP-8-640D Class II or latest revision. Boxes are to be weather resistant, triple wall, fluted, corrugated-fiber board. Cartons shall be strapped with two metal straps. Straps shall surround the outside perimeter of the carton. The first strap shall be located approximately 50 mm (2 in.) from the bottom of the carton and the second strap shall be placed approximately in the middle of the carton. All cartons shall be shrink wrapped for protection from moisture. Cartons shall be lined with a minimum 4 mil polyester bag and meet Interstate Commerce Commission requirements. Cartons shall be approximately 1 x 1 m (38 x 38 in.), contain 910 kg (2000 lb) of microcrystalline ceramic reflective elements and/or glass beads and be supported on a wooden pallet with fiber straps.
- (l) Packaging. The material shall be shipped to the job site in substantial containers and shall be plainly marked with the manufacturer's name and address, the name and color of the material, date of manufacture, and batch number.
- (m) Verification. Prior to approval and use of the polyurea pavement marking materials, the manufacturer shall submit a notarized certification of an independent laboratory, together with the results of all tests, stating these materials meet the requirements as set forth

herein. The certification test report shall state the lot tested, manufacturer's name, brand name of polyurea and date of manufacture. The certification shall be accompanied by one 1/2 L (1 pt) samples each of Part A and Part B. Samples shall be sent in the appropriate volumes for complete mixing of Part A and Part B.

After approval by the Department, certification by the polyurea manufacturer shall be submitted for each batch used. New independent laboratory certified test results and samples for testing by the Department shall be submitted any time the manufacturing process or paint formulation is changed. All costs of testing (other than tests conducted by the Department) shall be borne by the manufacturer.

(n) Acceptance samples. Acceptance samples shall consist of one 1/2 L (1 pt) samples of Part A and Part B, of each lot of paint. Samples shall be sent in the appropriate volumes for complete mixing of Part A and Part B. The samples shall be submitted to the Department for testing, together with a manufacturer's certification. The certification shall state the formulation for the lot represented is essentially identical to that used for qualification testing. All acceptance samples will be taken by a representative of the Department. The polyurea pavement marking materials shall not be used until tests are completed and they have met the requirements as set forth herein.

(o) Material Retainage. The manufacturer shall retain the test sample for a minimum of 18 months.

Equipment. The polyurea pavement marking compounds shall be applied through equipment specifically designed to apply two component liquid materials, glass beads and/or reflective elements in a continuous and skip-line pattern. The two-component liquid materials shall be applied after being accurately metered and then mixed with a static mix tube or airless impingement mixing guns. The static mixing tube or impingement mixing guns shall accommodate plural component material systems that have a volumetric ratio of 2 to 1 or 3 to 1. This equipment shall produce the required amount of heat at the mixing head and gun tip and maintain those temperatures within the tolerances specified. The guns shall have the capacity to deliver materials from approximately 5.7 to 11.4 L/min (1.5 to 3 gal/min) to compensate for a typical range of application speeds of 10 to 13 km/h (6 to 8 mph). The accessories such as spray tip, mix chamber, and rod diameter shall be selected according to the manufacturer's specifications to achieve proper mixing and an acceptable spray pattern. The application equipment shall be maneuverable to the extent that straight lines can be followed and normal curves can be made in a true arc. This equipment shall also have as an integral part of the gun carriage, a high pressure air spray capable of cleaning the pavement immediately prior to making application.

The equipment shall be capable of spraying both yellow and white polyurea, according to the manufacturer's recommended proportions and be mounted on a truck of sufficient size and stability with an adequate power source to produce lines of uniform dimensions and prevent application failure. The truck shall have at least two polyurea tanks each of 415 L (110 gal) minimum capacity and be equipped with hydraulic systems and agitators. It shall be capable of placing stripes on the left and right sides and placing two lines on a three-line system simultaneously with either line in a solid or intermittent pattern, in yellow or white, and applying the appropriate reflective media according to manufacturer's recommendations. All guns shall be in full view of operations at all times. The equipment shall have a metering device to register

the accumulated installed quantities for each gun, each day. Each vehicle shall include at least one operator who shall be a technical expert in equipment operations and polyurea application techniques. Certification of equipment shall be provided at the pre-construction conference.

The mobile applicator shall include the following features:

- (a) Material Reservoirs. The applicator shall provide individual material reservoirs, or space for the storage of Part A and Part B of the resin composition.
- (b) Heating Equipment. The applicator shall be equipped with heating equipment of sufficient capacity to maintain the individual resin components at the manufacturer's recommended temperature of ± 2.8 °C (± 5 °F) for spray application.
- (c) Dispensing Equipment. The applicator shall be equipped with glass bead and/or reflective element dispensing equipment. The applicator shall be capable of applying the glass beads and/or reflective elements at a rate and combination indicated by the manufacturer.
- (d) Volumetric Usage. The applicator shall be equipped with metering devices or pressure gauges on the proportioning pumps as well as stroke counters to monitor volumetric usage. Metering devices or pressure gauges and stroke counters shall be visible to the Engineer.
- (e) Pavement Marking Placement. The applicator shall be equipped with all the necessary spray equipment, mixers, compressors and other appurtenances to allow for the placement of reflectorized pavement markings in a simultaneous sequence of operations.

The Contractor shall provide an accurate temperature-measuring device(s) that shall be capable of measuring the pavement temperature prior to application of the material, the material temperature at the gun tip and the material temperature prior to mixing.

CONSTRUCTION REQUIREMENTS

General. The pavement shall be cleaned by a method approved by the Engineer to remove all dirt, grease, glaze or any other material that would reduce the adhesion of the markings with minimum or no damage to the pavement surface. New PCC pavements shall be air-blast-cleaned to remove all latents.

Widths, lengths, and shapes of the cleaned surface shall be of sufficient size to include the full area of the specified pavement marking to be placed.

The cleaning operation shall be a continuous moving operation process with minimum interruption to traffic.

Markings shall be applied to the cleaned surfaces on the same calendar day. If this cannot be accomplished, the surface shall be re-cleaned prior to applying the markings. No markings shall be applied until the Engineer approves the cleaning.

The pavement markings shall be applied to the cleaned road surface, during conditions of dry weather and subsequently dry pavement surfaces at a minimum uniform wet thickness of 0.4 mm (15 mils) according to the manufacturer's installation instructions. On new bituminous course surfaces the pavement markings shall be applied at a minimum uniform wet thickness of 0.5 mm (20 mils). The application of and combination of reflective media (glass beads and/or reflective elements) shall be applied at a rate specified by the manufacturer. At the time of installation the pavement surface temperature and the ambient temperature shall be above 4 °C (40 °F) and rising. The pavement markings shall not be applied if the pavement shows any visible signs of moisture or it is anticipated that damage causing moisture, such as rain showers, may occur during the installation and set periods. The Engineer will determine the atmospheric conditions and pavement surface conditions that produce satisfactory results.

Using the application equipment, the pavement markings shall be applied in the following manner, as a simultaneous operation:

- (a) The surface shall be air-blasted to remove any dirt and residue.
- (b) The resin shall be mixed and heated according to manufacturer's recommendations and sprayed onto the pavement surface.

The edge of the center line or lane line shall be offset a minimum distance of 50 mm (2 in.) from a longitudinal crack or joint. Edge lines shall be approximately 50 mm (2 in.) from the edge of pavement. The finished center and lane lines shall be straight, with the lateral deviation of any 3 m (10 ft) line not to exceed 25 mm (1 in.).

Notification. The Contractor shall notify the Engineer 72 hours prior to the placement of the markings in order that he/she can be present during the operation. At the time of notification, the Contractor shall provide the Engineer the manufacturer and lot numbers of polyurea and reflective media that will be used.

Inspection. The polyurea pavement markings will be inspected following installation according to Article 780.10 of the Standard Specifications, except, no later than December 15, and inspected following a winter performance period that extends 180 days from December 15.

Method of Measurement. This work will be measured for payment in place, in meters (feet). Double yellow lines will be measured as two separate lines.

Basis of Payment. This work will be paid for at the contract unit price per meter (foot) for POLYUREA PAVEMENT MARKING TYPE I – LINE of the line width specified or for POLYUREA PAVEMENT MARKING TYPE II – LINE of the line width specified.

80119

PORTABLE CHANGEABLE MESSAGE SIGNS (BDE)

Effective: November 1, 1993
Revised: April 2, 2004

Description. This work shall consist 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 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 message panel shall also be capable of being controlled by a computer from a remote location via a cellular linkage. The Contractor shall supply the modem, the cellular phone, and the necessary software to run the sign from a remote computer at a location designated by the Engineer. The Contractor shall 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).

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

The Contractor shall 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 will 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 the Contractor.

When 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.

Basis of Payment. When portable changeable message signs are shown on the Standard, this work will not be paid for separately but shall be considered as included in the cost of the Standard.

For all other portable changeable message signs, this work will be paid for at the contract unit price per calendar month for each sign as CHANGEABLE MESSAGE SIGN.

80124

PORTLAND CEMENT (BDE)

Effective: January 1, 2005
Revised: November 1, 2005

Add the following paragraph after the last paragraph of Article 1001.01 of the Standard Specifications.

"For portland cement according to ASTM C 150, the bill of lading shall state if limestone has been added. The bill of lading shall also state that the limestone addition is not in excess of five percent by mass (weight) of the cement."

80139

PORTLAND CEMENT CONCRETE (BDE)

Effective: November 1, 2002

Add the following paragraph after the fourth paragraph of Article 1103.01(b) of the Standard Specifications:

"The truck mixer shall be approved before use according to the Bureau of Materials and Physical Research's Policy Memorandum, "Approval of Concrete Plants and Delivery Trucks"."

Add the following paragraph after the first paragraph of Article 1103.01(c) of the Standard Specifications:

"The truck agitator shall be approved before use according to the Bureau of Materials and Physical Research's Policy Memorandum, "Approval of Concrete Plants and Delivery Trucks"."

Add the following paragraph after the first paragraph of Article 1103.01(d) of the Standard Specifications:

"The nonagitator truck shall be approved before use according to the Bureau of Materials and Physical Research's Policy Memorandum, "Approval of Concrete Plants and Delivery Trucks"."

Revise the first sentence of the first paragraph of Article 1103.02 of the Standard Specifications to read:

"The plant shall be approved before production begins according to the Bureau of Materials and Physical Research's Policy Memorandum, "Approval of Concrete Plants and Delivery Trucks"."

80083

PRECAST CONCRETE PRODUCTS (BDE)

Effective: July 1, 1999

Revised: November 1, 2004

Product Approval. Precast concrete products shall be produced according to the Department's current Policy Memorandum, "Quality Control/Quality Assurance Program for Precast Concrete Products". The Policy Memorandum applies to precast concrete products listed under the Products Key of the "Approved List of Certified Precast Concrete Producers".

Precast Concrete Box Culverts. Add the following sentence to the end of the fourth paragraph of Article 540.06:

"After installation, the interior and exterior joint gap between precast concrete box culvert sections shall not exceed 38 mm (1 1/2 in.)."

Portland Cement Replacement. For precast concrete products using Class PC concrete or other mixtures, portland cement replacement with fly ash or ground granulated blast-furnace (GGBF) slag shall be governed by the AASHTO or ASTM standard specification referenced in the Standard Specifications.

For all other precast concrete products using Class PC concrete or other mixtures, portland cement replacement with fly ash or GGBF slag shall be approved by the Engineer. Class F fly ash shall not exceed 15 percent by mass (weight) of the total portland cement and Class F fly ash. Class C fly ash shall not exceed 20 percent by mass (weight) of the total portland cement and Class C fly ash. GGBF slag shall not exceed 25 percent by mass (weight) of the total portland cement and GGBF slag.

Concrete mix designs, for precast concrete products, shall not consist of portland cement, fly ash and GGBF slag.

Ready-Mixed Concrete. Delete the last paragraph of Article 1020.11(a) of the Standard Specifications.

Shipping. When a precast concrete product has attained the specified strength, the earliest the product may be loaded, shipped, and used is on the fifth calendar day. The first calendar day shall be the date casting was completed.

Acceptance. Products which have been lot or piece inspected and approved by the Department prior to July 1, 1999, will be accepted for use on this contract.

419.doc

RAILROAD PROTECTIVE LIABILITY INSURANCE (BDE)

Effective: December 1, 1986
 Revised: January 1, 2006

Description. Railroad Protective Liability and Property Damage Liability Insurance shall be carried according to Article 107.11 of the Standard Specifications. A separate policy is required for each railroad unless otherwise noted.

NAMED INSURED & ADDRESS	NUMBER & SPEED OF PASSENGER TRAINS	NUMBER & SPEED OF FREIGHT TRAINS
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DOT/AAR No.:
 RR Division:

RR Mile Post:
 RR Sub-Division:

For Freight/Passenger Information Contact:
 For Insurance Information Contact:

Phone:
 Phone:

DOT/AAR No.:
 RR Division:

RR Mile Post:
 RR Sub-Division:

For Freight/Passenger Information Contact:
 For Insurance Information Contact:

Phone:
 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.

34261

RAP FOR USE IN BITUMINOUS CONCRETE MIXTURES (BDE)

Effective: January 1, 2000
Revised: April 1, 2002

Revise Article 1004.07 to read:

"1004.07 RAP Materials. RAP is reclaimed asphalt pavement resulting from cold milling or crushing of an existing dense graded hot-mix asphalt pavement. RAP must originate from routes or airfields under federal, state or local agency jurisdiction. The Contractor shall supply documentation that the RAP meets these requirements.

(a) Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. No additional RAP will be allowed on top of the pile after the pile has been sealed.

- (1) Homogeneous. Homogeneous RAP stockpiles shall consist of RAP from Class I/ Superpave, or equivalent mixtures only and represent the same aggregate quality, but shall be at least C quality or better, the same type of crushed aggregate (either crushed natural aggregate, ACBF slag, or steel slag), similar gradation and similar AC 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. Homogenous stockpiles shall meet the requirements of Article 1004.07(d). Homogeneous RAP stockpiles not meeting these requirements may be processed (crushing and screening) and retested.
- (2) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I/ Superpave, or equivalent mixtures only. The coarse aggregate in this RAP shall be crushed aggregate only and may represent more than one aggregate type and/or quality but shall be at least C quality or better. This RAP may have an inconsistent gradation and/or asphalt cement content prior to processing. All conglomerate RAP shall be processed prior to testing by crushing to where all RAP shall pass the 16 mm (5/8 in.) or smaller screen. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department. Conglomerate RAP stockpiles shall meet the requirements of Article 1004.07(d).
- (3) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP containing coarse aggregate (crushed or round) that is at least D quality or better. This RAP may have an inconsistent gradation and/or asphalt content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department. Conglomerate DQ RAP shall meet the requirements of Article 1004.07(d).

Reclaimed Superpave Low ESAL IL-9.5L surface mixtures shall only be placed in conglomerate DQ RAP stockpiles due to the potential for rounded aggregate.

(4) Other. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Other". "Other" RAP stockpiles shall not be used in any of the Department's bituminous mixtures.

(b) Use. The allowable use of a RAP stockpile shall be set by the lowest quality of coarse aggregate in the RAP stockpile. Class I/Superpave surface mixtures are designated as containing Class B quality coarse aggregate only. Superpave Low ESAL IL-19.0L binder and IL-9.5L surface mixtures are designated as Class C quality coarse aggregate only. Class I/Superpave binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate only. Bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate only. Any mixture not listed above shall have the designated quality determined by the Department.

RAP containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in Class I/Superpave (including Low ESAL) surface mixtures only. RAP stockpiles for use in Class I/Superpave mixtures (including Low ESAL), base course, base course widening and Class B mixtures shall be either homogeneous or conglomerate RAP stockpiles except conglomerate RAP stockpiles shall not be used in Superpave surface mixture N design 50 or greater. RAP for use in bituminous aggregate mixtures (BAM) shoulders and BAM stabilized subbase shall be from homogeneous, conglomerate, or conglomerate DQ stockpiles.

Additionally, RAP used in Class I/Superpave surface mixtures shall originate from milled or crushed mixtures only, in which the coarse aggregate is of Class B quality or better. RAP stockpiles for use in Class I/Superpave (including Low ESAL) binder mixes as well as base course, base course widening and Class B mixtures shall originate from milled or processed surface mixture, binder mixture, or a combination of both mixtures uniformly blended to the satisfaction of the Engineer, in which the coarse aggregate is of Class C quality or better.

(c) Contaminants. RAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

(d) Testing. All 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 450 metric tons (500 tons) for the first 1800 metric tons (2,000 tons) and one sample per 1800 metric tons (2,000 tons) thereafter. A minimum of five tests shall be required for stockpiles less than 3600 metric tons (4,000 tons).

For testing existing stockpiles, 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 extract representative samples throughout the pile for testing.

Before extraction, each field sample shall be split to 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.

All of the extraction results shall be compiled and averaged for asphalt content and gradation. Individual extraction test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	Homogeneous / Conglomerate	Conglomerate "D" Quality
25 mm (1 in.)		± 5%
12.5 mm (1/2 in.)	± 8%	± 15%
4.75 mm (No. 4)	± 6%	± 13%
2.36 mm (No. 8)	± 5%	
1.18 mm (No. 16)		± 15%
600 μm (No. 30)	± 5%	
75 μm (No. 200)	± 2.0%	± 4.0%
AC	± 0.4%	± 0.5%

If more than 20 percent of the individual sieves are out of the gradation tolerances, or if more than 20 percent of the asphalt content test results fall outside the appropriate tolerances, the RAP will not be allowed to be used in the Department's bituminous concrete mixtures unless the RAP representing the failing tests is removed from the stockpile to the satisfaction of the Engineer. 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)".

(e) Designs. At the Contractor's option, bituminous concrete mixtures may be constructed utilizing RAP material meeting the above detailed requirements. The amount of RAP included in the mixture shall not exceed the percentages specified in the plans.

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 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.

- (f) Production. The coarse aggregate in all RAP used shall be equal to or less than the nominal maximum size requirement for the bituminous 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.

80011

REINFORCEMENT BARS (BDE)

Effective: November 1, 2005

Revised: November 2, 2005

Revise Article 1006.10(a) of the Supplemental 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 706M (A 706), Grade 420 (60) 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 706M (A 706). 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 284M (M 284) 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 0.18 to 0.30 mm (7 to 12 mils). When spiral reinforcement is coated after fabrication, the thickness of the epoxy coating shall be 0.18 to 0.50 mm (7 to 20 mils).
 - 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 13 mm (0.5 in.) back and the cut is patched before any visible rusting appears. Flame cutting will not be permitted."

80151

SEEDING AND SODDING (BDE)

Effective: July 1, 2004

Revised: August 1, 2005

Revise Class 1A and 2A seeding mixtures shown in Table 1 of Article 250.07 of the Standard Specifications to read:

"Table 1 - SEEDING MIXTURES		
Class – Type	Seeds	kg/hectare (lb/acre)
1A Salt Tolerant Lawn Mixture 7/	Bluegrass	70 (60)
	Perennial Ryegrass	20 (20)
	Audubon Red Fescue	20 (20)
	Rescue 911 Hard Fescue	20 (20)
	Fults Salt Grass*	70 (60)
2A Salt Tolerant Roadside Mixture 7/	Alta Fescue or Ky 31	70 (60)
	Perennial Ryegrass	20 (20)
	Audubon Red Fescue	20 (30)
	Rescue 911 Hard Fescue	20 (30)
	Fults Salt Grass 1/	70 (60)"

Revise Note 7 of Article 250.07 of the Standard Specifications to read:

"Note 7. In Districts 1 through 6, the planting times shall be April 1 to June 15 and August 1 to November 1. In Districts 7 through 9, the planting times shall be March 1 to June 1 and August 1 to November 15. Seeding may be performed outside these dates provided the Contractor guarantees a minimum of 75 percent uniform growth over the entire seeded area(s) after one growing season. The guarantee shall be submitted to the Engineer in writing prior to performing the work. After one growing season, areas not sustaining 75 percent uniform growth shall be interseeded or reseeded, as determined by the Engineer, at the Contractor's expense."

Add the following sentence to Article 252.04 of the Standard Specifications:

"Sod shall not be placed during the months of July and August."

Revise the first paragraph of Article 252.08 of the Standard Specifications to read:

"252.08 Sod Watering. Within two hours after the sod has been placed, water shall be applied at a rate of 25 L/sq m (5 gal/sq yd). Additional water shall be applied every other day at a rate of 15 L/sq m (3 gal/sq yd) for a total of 15 additional waterings. During periods exceeding 26 °C (80 °F) or subnormal rainfall, the schedule of additional waterings may be altered with the approval of the Engineer."

Revise Article 252.09 of the Standard Specifications to read:

"252.09 Supplemental Watering. During periods exceeding 26 °C (80 °F) or subnormal rainfall, supplemental watering may be required after the initial and additional waterings. Supplemental watering shall be performed when directed by the Engineer. Water shall be applied at the rate specified by the Engineer within 24 hours of notice."

Revise the first and third paragraphs of Article 252.12 of the Standard Specifications to read:

"252.12 Method of Measurement. Sodding will be measured for payment in place and the area computed in square meters (square yards). To be acceptable for final payment, the sod shall be growing in place for a minimum of 30 days in a live, healthy condition. When directed by the Engineer, any defective or unacceptable sod shall be removed, replaced and watered by the Contractor at his/her own expense."

"Supplemental watering will be measured for payment in units of 1000 L (1000 gal) of water applied on the sodded areas. Waterings performed in addition to those required by Article 252.08 or after the 30 day establishment period will be considered as supplemental watering."

Replace the first paragraph of Article 252.13 of the Standard Specifications with the following:

"252.13 Basis of Payment. Sodding will be paid for at the contract unit price per square meter (square yard) for SODDING or SODDING, SALT TOLERANT according to the following schedule.

- (a) Initial Payment. Upon placement of sod, 25 percent of the pay item will be paid.
- (b) Final Payment. Upon acceptance of sod, the remaining 75 percent of the pay item will be paid."

Revise Article 1081.03(b) of the Standard Specifications to read:

"(b) Salt Tolerant Sod.

Variety	Percent by Weight
Buffalo Grass	30%
Buchloe Dactyloides	
Amigo Fineleaf Tall Fescue	20%
Audubon Red Fescue	15%
Rescue 911 Hard Fescue	15%
Rugby Kentucky Bluegrass	5%
Fults Pucinnellia Distans	15%"

Revise Table II of Article 1081.04(c)(6) of the Standard Specifications to read:

TABLE II						
Variety of Seeds	Hard Seed Percent Maximum	Purity Percent Minimum	Pure, Live Seed Percent Minimum	Weed Percent Maximum	Secondary Noxious Weeds No. per kg (oz) Max. Permitted*	Remarks
Alfalfa	20	92	89	0.50	211 (6)	1/
Brome Grass	-	90	75	0.50	175 (5)	-
Clover, Alsike	15	92	87	0.30	211 (6)	2/
Clover, Crimson	15	92	83	0.50	211 (6)	-
Clover, Ladino	15	92	87	0.30	211 (6)	-
Clover, Red	20	92	87	0.30	211 (6)	3/
Clover, White Dutch	30	92	87	0.30	211 (6)	-
Audubon Red Fescue	0	97	82	0.10	105 (3)	-
Fescue, Alta or Ky. 31	-	97	82	1.00	105 (3)	-
Fescue, Creeping Red	-	97	82	1.00	105 (3)	-
Fults Salt Grass	0	98	85	0.10	70 (2)	-
Kentucky Bluegrass	-	97	80	0.30	247 (7)	5/
Lespedeza, Korean	20	92	84	0.50	211 (6)	3/
Oats	-	92	88	0.50	70 (2)	4/
Orchard Grass	-	90	78	1.50	175 (5)	4/
Redtop	-	90	78	1.80	175 (5)	4/
Ryegrass, Perennial, Annual	-	97	85	0.30	175 (5)	4/
Rye, Grain, Winter	-	92	83	0.50	70 (2)	4/
Rescue 911 Hard Fescue	0	97	82	0.10	105 (3)	-
Timothy	-	92	84	0.50	175 (5)	4/
Vetch, Crown	30	92	67	1.00	211 (6)	3/ & 6/
Vetch, Spring	30	92	88	1.00	70 (2)	4/
Vetch, Winter	15	92	83	1.00	105 (3)	4/
Wheat, hard Red Winter	-	92	89	0.50	70 (2)	4/

80131

SELF-CONSOLIDATING CONCRETE FOR CAST-IN-PLACE CONSTRUCTION (BDE)

Effective: November 1, 2005

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 and SI concrete. Self-consolidating concrete may also be used for drilled shafts.

Materials. Materials shall be according to the following.

- (a) Self-Consolidating Admixtures. The self-consolidating admixture system shall consist of either a high range water-reducing admixture only or a high range water-reducing admixture combined with a separate viscosity modifying admixture. The one or two component admixture system shall be capable of producing a concrete that can flow around reinforcement and consolidate under its own weight without additional effort and without segregation.

The high range water-reducing admixture shall comply with the requirements of AASHTO M 194, Type F.

The viscosity modifying admixture will be evaluated according to the test methods and mix design proportions referenced in AASHTO M 194, except the following physical requirements shall be met:

- (1) For initial and final set times, the allowable deviation of the test concrete from the reference concrete shall not be more than 1.0 hour earlier or 1.5 hours later.
 - (2) For compressive and flexural strengths, the test concrete shall be a minimum of 90 percent of the reference concrete at 3, 7, and 28 days.
 - (3) The length change of the test concrete shall be a maximum 135 percent of the reference concrete. However, if the length change of the reference concrete is less than 0.030 percent, the length change of the test concrete shall be a maximum 0.010 percentage units greater than the reference concrete.
 - (4) The relative durability factor of the test concrete shall be a minimum 80 percent.
- (b) Fine Aggregate. A fine aggregate used alone in the mix design shall not have an expansion greater than 0.30 percent per ASTM C 1260. For a blend of two or more fine aggregates, the resulting blend shall not have an expansion greater than 0.30 percent.

The aggregate blend expansion will be calculated as follows:

Aggregate Blend Expansion = $(a/100 \times A) + (b/100 \times B) + (c/100 \times C) + \dots$ etc.

Where: a, b, c, ... = percent of aggregate blend
A, B, C, ... = aggregate expansion according to ASTM C 1260

Mix Design Criteria. Article 1020.04 of the Standard Specifications shall apply except as follows:

- (a) The minimum cement factor shall be according to Article 1020.04 of the Standard Specifications or as specified. The maximum cement factor shall be 418 kg/cu m (7.05 cwt/cu yd). 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 11, CA 13, CA 14, CA 16, or a blend of these gradations. CA 11 shall not be used for drilled shafts or when the Engineer approves a horizontal flow distance greater than 9 m (30 ft). The fine aggregate proportion shall be a maximum 50 percent by mass (weight) of the total aggregate used.
- (e) The slump flow range shall be ± 50 mm (± 2 in.) of the Contractor target value, and within the overall Department range of 510 mm (20 in.) minimum to 710 mm (28 in.) maximum.
- (f) The visual stability index shall be a maximum of 1.
- (g) The J-ring value shall be a maximum of 100 mm (4 in.). 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 also 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 1.5 cu m (2 cu yd) 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 25 mm (1.0 in.) 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, 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 design falsework and forms for full hydrostatic head pressure of the concrete. Forms shall be tight to prevent leakage of fluid concrete.

Placing and Consolidating. Concrete placement and consolidations 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 1.5 m (5 ft). If necessary, a tremie shall be used to meet this requirement. The maximum distance of horizontal flow from the point of deposit shall be 9 m (30 ft), unless approved otherwise by the Engineer. For drilled shafts, free fall placement will not be permitted.”

Delete the sixth, seventh, eighth and ninth paragraphs of Article 503.07 of the Standard Specifications.

Revise the eleventh paragraph of Article 503.07 of the Standard Specifications to read:

“Concrete shall be placed in continuous layers. When it is necessary by reason of an emergency to place less than a complete horizontal layer in one operation, such layer shall terminate in a vertical bulkhead. In order that the concrete will not be injured and that there shall be no line of separation between the batches, the separate batches shall follow each other closely as recommended by the manufacturer of the self-consolidating concrete admixture(s). In no case shall the interval of time between the placing of successive batches be greater than 20 minutes. Concrete shall be rodded with a piece of lumber or conduit if the material has lost its fluidity prior to placement of additional concrete. Any other method for restoring the fluidity of the concrete shall be approved by the Engineer. If ready-mixed concrete is used, the requirements of Article 1020.11 shall apply. Delivery of mixed concrete shall be regulated so that there will not be an interruption in the placing of concrete in the forms, as recommended by the manufacturer of the self-consolidating concrete admixture(s). In no case shall the interval of time be greater than 20 minutes.”

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 40 cu m (50 cu yd) 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 230 cu m (300 cu yd) 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 25 mm (1 in.) 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 25 mm (1 in.) 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: November 1, 2005

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 the following.

- (a) Self-Consolidating Admixtures. The self-consolidating admixture system shall consist of either a high range water-reducing admixture only or a high range water-reducing admixture combined with a separate viscosity modifying admixture. The one or two component admixture system shall be capable of producing a concrete that can flow around reinforcement and consolidate under its own weight without additional effort and without segregation.

The high range water-reducing admixture shall comply with the requirements of AASHTO M 194, Type F.

The viscosity modifying admixture will be evaluated according to the test methods and mix design proportions referenced in AASHTO M 194, except the following physical requirements shall be met:

- (1) For initial and final set times, the allowable deviation of the test concrete from the reference concrete shall not be more than 1.0 hour earlier or 1.5 hours later.
 - (2) For compressive and flexural strengths, the test concrete shall be a minimum of 90 percent of the reference concrete at 3, 7 and 28 days.
 - (3) The length change of the test concrete shall be a maximum 135 percent of the reference concrete. However, if the length change of the reference concrete is less than 0.030 percent, the length change of the test concrete shall be a maximum 0.010 percentage units greater than the reference concrete.
 - (4) The relative durability factor of the test concrete shall be a minimum 80 percent.
- (b) Fine Aggregate. A fine aggregate used alone in the mix design shall not have an expansion greater than 0.30 percent per ASTM C 1260. For a blend of two or more fine aggregates, the resulting blend shall not have an expansion greater than 0.30 percent.

The aggregate blend expansion will be calculated as follows:

$$\text{Aggregate Blend Expansion} = (a/100 \times A) + (b/100 \times B) + (c/100 \times C) + \dots \text{etc.}$$

Where: a, b, c, ... = percent of aggregate blend
A, B, C, ... = aggregate expansion according to ASTM C 1260

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 or as specified. The maximum cement factor shall be 418 kg/cu m (7.05 cwt/cu yd).
- (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 11, CA 13, CA 14, CA 16, or a blend of these gradations. CA 11 shall not be used when the Engineer approves a horizontal flow distance greater than 9 m (30 ft). The fine aggregate proportion shall be a maximum 50 percent by mass (weight) of the total aggregate used.
- (e) The slump flow range shall be ± 50 mm (± 2 in.) of the Contractor target value, and within the overall Department range of 510 mm (20 in.) minimum to 710 mm (28 in.) maximum.
- (f) The visual stability index shall be a maximum of 1.
- (g) The J-ring value shall be a maximum of 100 mm (4 in.). 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.

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)

Effective: April 2, 2004

Revised: July 1, 2004

Description. At the bidder's option, a steel cost adjustment will be made to provide additional compensation to the Contractor or a credit to the Department for fluctuations in steel prices. The bidder must indicate on the attached form whether or not steel cost adjustments will be part of this contract. This attached form shall be submitted with the bid. Failure to submit the form 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 kg (lb), shipped from the mill to the fabricator.
- (c) The quantity of steel, in kg (lb), 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 kg (lb)
D = price factor, in dollars per kg (lb)

$$D = CBP_M - CBP_L$$

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 kg (lb).

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 kg (lb).

The unit masses (weights) 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 steel items 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.

Attachment

Item	Unit Mass (Weight)
Metal Piling (excluding temporary sheet piling)	
Furnishing Metal Pile Shells 305 mm (12 in.), 3.80 mm (0.179 in.) wall thickness)	34 kg/m (23 lb/ft)
Furnishing Metal Pile Shells 305 mm (12 in.), 6.35 mm (0.250 in.) wall thickness)	48 kg/m (32 lb/ft)
Furnishing Metal Pile Shells 356 mm (14 in.), 6.35 mm (0.250 in.) wall thickness)	55 kg/m (37 lb/ft)
Other piling	See plans
Structural Steel	See plans for weights
Reinforcing Steel	See plans for weights
Dowel Bars and Tie Bars	3 kg (6 lb) each
Mesh Reinforcement	310 kg/sq m (63 lb/100 sq ft)
Guardrail	
Steel Plate Beam Guardrail, Type A w/steel posts	30 kg/m (20 lb/ft)
Steel Plate Beam Guardrail, Type B w/steel posts	45 kg/m (30 lb/ft)
Steel Plate Beam Guardrail, Types A and B w/wood posts	12 kg/m (8 lb/ft)
Steel Plate Beam Guardrail, Type 2	140 kg (305 lb) each
Steel Plate Beam Guardrail, Type 6	570 kg (1260 lb) each
Traffic Barrier Terminal, Type 1 Special (Tangent)	330 kg (730 lb) each
Traffic Barrier Terminal, Type 1 Special (Flared)	185 kg (410 lb) each
Steel Traffic Signal and Light Poles, Towers and Mast Arms	
Traffic Signal Post	16 kg/m (11 lb/ft)
Light Pole, Tenon Mount and Twin Mount, 9 m – 12 m (30 - 40 ft)	21 kg/m (14 lb/ft)
Light Pole, Tenon Mount and Twin Mount, 13.5 m – 16.5 m (45 - 55 ft)	31 kg/m (21 lb/ft)
Light Pole w/Mast Arm, 9 m – 15.2 m (30 - 50 ft)	19 kg/m (13 lb/ft)
Light Pole w/Mast Arm, 16.5 m – 18 m (55 - 60 ft)	28 kg/m (19 lb/ft)
Light Tower w/Luminaire Mount, 24 m – 33.5 m (80 - 110 ft)	46 kg/m (31 lb/ft)
Light Tower w/Luminaire Mount, 36.5 m – 42.5 m (120 - 140 ft)	97 kg/m (65 lb/ft)
Light Tower w/Luminaire Mount, 45.5 m – 48.5 m (150 - 160 ft)	119 kg/m (80 lb/ft)
Metal Railings (excluding wire fence)	
Steel Railing, Type SM	95 kg/m (64 lb/ft)
Steel Railing, Type S-1	58 kg/m (39 lb/ft)
Steel Railing, Type T-1	79 kg/m (53 lb/ft)
Steel Bridge Rail	77 kg/m (52 lb/ft)
Frames and Grates	
Frame	115 kg (250 lb)
Lids and Grates	70 kg (150 lb)

Return With Bid

**ILLINOIS DEPARTMENT
OF TRANSPORTATION**

**OPTION FOR
STEEL COST ADJUSTMENT**

The bidder shall submit this form with his/her bid. Failure to submit the form 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

STEEL PLATE BEAM GUARDRAIL (BDE)

Effective: November 1, 2005

Add the following to the end of the first paragraph of Article 1006.25 of the Standard Specifications:

"The thickness of the galvanized coating for each side of the guardrail shall be at least 610 g/sq m (2.00 oz/sq ft). The thickness of the zinc or zinc alloy will be determined for each side using the average of at least three non-destructive test readings taken on that side of the guardrail."

80153

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

SUBGRADE PREPARATION (BDE)

Effective: November 1, 2002

Revise the tenth paragraph of Article 301.03 of the Standard Specifications to read:

“Equipment of such weight, or used in such a way as to cause a rut in the finished subgrade of 13 mm (1/2 in.) or more in depth, shall be removed from the work or the rutting otherwise prevented.”

80086

SUPERPAVE BITUMINOUS CONCRETE MIXTURES (LOW ESAL) (BDE)

Effective: January 1, 2001

Revised: April 1, 2004

Description. This work shall consist of constructing Bituminous Concrete Surface Course Superpave IL-9.5L and/or Bituminous Concrete Binder Course Superpave IL-19.0L according to Section 406 of the Standard Specifications and the special provision "Quality Control/Quality Assurance of Bituminous Concrete Mixtures", except as modified herein.

Materials.

(a) Coarse Aggregate. Coarse aggregate for the IL-19.0L shall meet the requirements of a Class I Type 3 binder course and the gradation specified below. For the IL-9.5L mixture, the coarse aggregate shall meet the requirements of a Class I Type 3 surface course except that gravel and Class C Quality, or better, aggregate may be used.

(b) Reclaimed Asphalt Pavement (RAP). RAP shall meet the requirements of the special provision, "RAP for Use in Bituminous Concrete Mixtures".

RAP containing steel slag will be permitted for use in top-lift surface mixtures only.

(c) Bituminous Material. The asphalt cement (AC), unless otherwise specified on the plans, shall be performance-graded (PG) 58-22. The AC shall meet the requirements of Article 1009.05 of the Standard Specifications for the grade specified.

If the Contractor is allowed to use more than 15 percent RAP, a softer PG binder may be required, as determined by the Engineer.

Laboratory Equipment.

(a) Superpave Gyratory Compactor. The superpave gyratory compactor (SGC) shall be used for all laboratory mixture compaction.

(b) Ignition Oven. The ignition oven shall be used for determination of AC content. The ignition oven shall also be used to recover aggregates for all required washed gradations.

The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC content calibration factors, which exceed 1.5 percent. If the calibration factor exceeds 1.5 percent other IDOT approved methods shall be utilized for determination of AC content.

Mixture Design. The Contractor shall submit mix designs for approval, for each required mixture. Mix designs shall be developed by Level III personnel who have successfully completed the course, "Superpave Mix Design Upgrade". Articles 406.10 and 406.13 of the

Standard Specifications shall not apply. The mixtures shall be designed according to the respective Illinois Modified AASHTO references listed below.

- AASHTO MP 2 Standard Specification for Superpave Volumetric Mix Design
- AASHTO R 30 Standard Practice for Mixture Conditioning of Hot-Mix Asphalt (HMA)
- AASHTO PP 28 Standard Practice for Designing Superpave HMA
- AASHTO T 209 Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
- AASHTO T 312 Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor
- AASHTO T 308 Determining the Asphalt Content of Hot Mix Asphalt (HMA) by the Ignition Method

(a) Mixture Composition. The job mix formula (JMF) shall fall within the following limits:

TABLE 1. Mixture Composition		
Sieve	Percent Passing	
	9.5L	19.0L
25.0 mm (1 in.)		100
19.0 mm (3/4 in.)		95-100
12.5 mm (1/2 in.)	100	
9.5 mm (3/8 in.)	95 – 100	
4.75 mm (#4)	52 – 80	38-65
2.36 mm (#8)	38 – 65	
600 µm (#30)	< 50% of the percentage passing the #4	< 50% of the percentage passing the #4
75 µm (#200)	4.0 – 8.0	3.0 – 7.0
AC%	4.0 – 8.0	4.0 – 8.0
RAP Materials	Maximum 30% (or as shown on the plans)	Maximum 30%
#200:AC ratio	1.0 max. design	1.0 max. design

It is recommended that the selected combined aggregate gradation not pass through the restricted zones specified in Illinois Modified AASHTO MP 2.

(b) Volumetric Requirements.

Mix	Design Compactive Effort	Design Air Voids Target (%)	VMA (Voids in the Mineral Aggregate) (min.)	VFA (Voids Filled with Asphalt)
IL 9.5L	N _{DES} =30	3.0%	14.0%	70 - 80%
IL 19.0L	N _{DES} =30	4.0%	13.0%	N/A

- (c) Determination of Need for Anti-Stripping Additive. The mixture designer shall determine if an additive is needed in the mix to prevent stripping. The determination shall be made on the basis of tests performed according to Illinois Modified T 283 using 4 in. Marshall bricks. To be considered acceptable by the Engineer as a mixture not susceptible to stripping, the ratio of conditioned to unconditioned split tensile strengths (TSRs) shall be equal to or greater than 0.75. Mixtures, either with or without an additive, with TSRs less than 0.75 will be considered unacceptable.

If it is determined that an additive is required, the additive may be hydrated lime, slaked quicklime, or a liquid additive, at the Contractor's option. The liquid additive shall be selected from the Department's list of approved additives and may be limited to those, which have exhibited satisfactory performance in similar mixes.

Dry hydrated lime shall be added at a rate of 1.0 to 1.5 percent by weight of total dry aggregate. Slurry shall be added in such quantity as to provide the required amount of hydrated lime solids by weight of total dry aggregate. The exact rate of application for all anti-stripping additives will be determined by the Engineer. The method of application shall be according to Article 406.12 of the Standard Specifications.

Personnel. The QC Manager and Level I technician shall have successfully completed the Department's "Superpave Field Control Course".

Required Tests. Testing shall be conducted to control the production of the bituminous mixture. The Contractor shall use the test methods identified to perform the following mixture tests at a frequency not less than that indicated in Table 3.

Parameter		Frequency of Tests	Test Method
Aggregate Gradation Hot bins for batch and continuous plants. Individual cold-feeds or combined belt-feed for drier drum plants. (% passing sieves: 12.5 mm (1/2 in.), 4.75 mm (No. 4), 2.36 mm (No. 8), 600 µm (No. 30), 75 µm (No. 200))		1 dry gradation per day of production (either morning or afternoon sample). and 1 washed ignition oven test on the mix per day of production (conduct in afternoon if dry gradation is conducted in the morning or vice versa). NOTE: The order in which the above tests are conducted shall alternate from the previous production day (example: a dry gradation conducted in the morning will be conducted in the afternoon on the next production day and so forth). The dry gradation and washed ignition oven test results shall be plotted on the same control chart.	Illinois Procedure (See Manual of Test Procedures for Materials).
Asphalt Content by Ignition Oven (Note 1.)		1 per half day of production	Illinois Modified AASHTO T 308
Air Voids	Bulk Specific Gravity of Gyratory Sample.	1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day).	Illinois Modified AASHTO T 312
	Maximum Specific Gravity of Mixture		Illinois Modified AASHTO T 209

Note 1. The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC content calibration factors which exceed 1.5 percent. If the ignition oven requirement is waived, other Department approved methods shall be used to determine the AC content.

During production, the ratio of minus 75 µm (#200) sieve material to total asphalt cement shall be not less than 0.6 nor more than 1.2, and the moisture content of the mixture at discharge from the mixer shall not exceed 0.5 percent. If at any time the ratio of minus 75 µm (#200) material to asphalt or moisture content of the mixture falls outside the stated limits, production of mix shall cease. The cause shall be determined and corrective action satisfactory to the Engineer shall be initiated prior to resumption of production.

During production, any mixture containing an anti-stripping additive will be tested by the Engineer for stripping according to Illinois Modified T 283. If the mixture fails to meet the TSR criteria for acceptance, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria.

Control Charts/Limits. Control charts/limits shall be according to QC/QA Class I requirements, except density shall be plotted on the control charts within the following control limits:

Mixture	Individual Test
IL-9.5L	92.5 – 97.4%
IL-19.0L	93.0 – 97.4 %

Construction Requirements

Placing. The minimum compacted thickness of each lift shall be according to the following table:

Mixture	Minimum Compacted Lift Thickness, mm (in.)
IL-9.5L	32 (1 1/4)
IL-19.0L	57 (2 1/4)

Basis of Payment. This work will be paid for at the contract unit price per metric ton (ton) for BITUMINOUS CONCRETE SURFACE COURSE SUPERPAVE IL-9.5L (Low ESAL), or BITUMINOUS CONCRETE BINDER COURSE SUPERPAVE IL-19.0L (Low ESAL).

80039

TEMPORARY CONCRETE BARRIER (BDE)

Effective: October 1, 2002
Revised: November 1, 2003

Revise Section 704 of the Standard Specifications to read:

“SECTION 704. TEMPORARY CONCRETE BARRIER

704.01 Description. This work shall consist of furnishing, placing, maintaining, relocating and removing precast concrete barrier at temporary locations as shown on the plans or as directed by the Engineer.

704.02 Materials. Materials shall meet the requirements of the following Articles of Section 1000 - Materials:

Item	Article/Section
(a) Portland Cement Concrete	1020
(b) Reinforcement Bars (Note 1).....	1006.10(a)(b)
(c) Connecting Pins and Anchoring Pins.....	1006.09
(d) Connecting Loop Bars (Note 2)	
(e) Rapid Set Mortar (Note 3)	

Note 1. Reinforcement bars shall be Grade 400 (Grade 60).

Note 2. Connecting loop bars shall be smooth bars conforming to the requirements of ASTM A 36.

Note 3. Rapid set materials shall be obtained from the Department’s approved list of Packaged, Dry, Rapid Hardening Cementitious Materials for Concrete Repairs. For a rapid set mortar mixture, one part packaged rapid set cement shall be combined with two parts fine aggregate, by volume or a packaged rapid set mortar shall be used. Mixing of the rapid set mortar shall be according to the manufacturer’s instructions.

CONSTRUCTION REQUIREMENTS

704.03 General. Precast concrete barrier produced after October 1, 2002 shall meet National Cooperative Highway Research Program (NCHRP) Report 350, Category 3, Test Level 3 requirements and have the F shape. Precast concrete barrier shall be constructed according to the Bureau of Materials and Physical Research’s Policy Memorandum “Quality Control/Quality Assurance Program for Precast Concrete Products”, applicable portions of Sections 504 and 1020, and to the details shown on the plans.

Precast units shall not be removed from the casting beds until a flexural strength of 2,000 kPa (300 psi) or a compressive strength of 10,000 kPa (1400 psi) is attained. When the

concrete has attained a compressive strength according to Article 1020.04, and not prior to four days after casting, the units may be loaded, shipped and used.

704.04 Installation. F shape barrier units shall be seated on bare, clean pavement or paved shoulder and pinned together in a smooth, continuous line at the exact locations provided by the Engineer. The barrier unit at each end of the installation shall be secured to the pavement or paved shoulder using six anchoring pins and protected with an impact attenuator as shown on the plans.

F shape and New Jersey shape barrier units shall not be mixed in the same run.

Barrier units or attachments damaged during transportation or handling, or by traffic during the life of the installation, shall be repaired or replaced by the Contractor at his/her expense. The Engineer will be the sole judge in determining which units or attachments require repair or replacement.

The temporary barriers shall be removed when no longer required by the contract. After removal, all anchoring holes in the pavement or paved shoulder shall be filled with a rapid set mortar. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.

704.05 New Jersey Shape Barrier. New Jersey shape barrier produced prior to October 1, 2002 according to earlier Department standards, may be used until January 1, 2008.

Barrier units or attachments damaged during transportation or handling, or by traffic during the life of the installation, shall be repaired or replaced by the Contractor at his/her expense. The Engineer will be the sole judge in determining which units or attachments require repair or replacement.

F shape and New Jersey shape barrier units shall not be mixed in the same run.

The barrier unit at each end of the installation shall be secured to the pavement or paved shoulder using six dowel bars and protected with an impact attenuator as shown on the plans.

The temporary barriers shall be removed when no longer required by the contract. After removal, all anchoring holes in the pavement or paved shoulder shall be filled with a rapid set mortar. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.

704.06 Method of Measurement. Temporary concrete barrier will be measured for payment in meters (feet) in place along the centerline of the barrier. When temporary concrete barrier is relocated within the limits of the jobsite, the relocated barrier will be measured for payment in meters (feet) in place along the centerline of the barrier.

704.07 Basis of Payment. When the Contractor furnishes the barrier units, this work will be paid for at the contract unit price per meter (foot) for TEMPORARY CONCRETE BARRIER or RELOCATE TEMPORARY CONCRETE BARRIER.

When the Department furnishes the barrier units, this work will be paid for at the contract unit price per meter (foot) for TEMPORARY CONCRETE BARRIER, STATE OWNED or RELOCATE TEMPORARY CONCRETE BARRIER, STATE OWNED.

Impact attenuators will be paid for separately." |

80092

TEMPORARY EROSION CONTROL (BDE)

Effective: November 1, 2002

Revise the fifth sentence of the third paragraph of Article 280.04(a) of the Standard Specifications to read:

"This work may be constructed of hay or straw bales, extruded UV resistant high density polyethylene panels, erosion control blanket, mulch barrier, aggregate barriers, excavation, seeding, or mulch used separately or in combination, as approved, by the Engineer."

Add the following paragraphs after the fifth paragraph of Article 280.04(a) of the Standard Specifications.

"A ditch check constructed of extruded, UV resistant, high density polyethylene panels, "M" pins and erosion control blanket shall consist of the following materials:

Extruded, UV resistant, high density polyethylene panels shall have a minimum height of 250 mm (10 in.) and minimum length of 1.0 m (39.4 in.). The panels shall have a 51 mm (2 in.) lip along the bottom of the panel. Each panel shall have a single rib thickness of 4 mm (5/32 in.) with a 12 mm (1/2 in.) distance between the ribs. The panels shall have an average apparent opening size equal to 4.75 mm (No. 4) sieve, with an average of 30 percent open area. The tensile strength of each panel shall be 26.27 kN/m (1800 lb/ft) in the machine direction and 7.3 kN/m (500 lb/ft) in the transverse direction when tested according to ASTM D 4595.

"M" pins shall be at least 76 mm (3 in.) by 686 mm (27 in.), constructed out of deformed grade C1008 D3.5 rod (0.211 in. diameter). The rod shall have a minimum tensile strength of 55 MPa (8000 psi).

Erosion control blanket shall conform to Article 251.04.

A section of erosion control blanket shall be placed transverse to the flowline direction of the ditch prior to the construction of the polyethylene ditch check. The length of the section shall extend from the top of one side of the ditch to the top of the opposite side of the ditch, while the width of the section shall be one roll width of the blanket. The upstream edge of the erosion control blanket shall be secured in a 100 mm (4 in.) trench. The blanket shall be secured in the trench with 200 mm (8 in.) staples placed at 300 mm (1 ft) intervals along the edge before the trench is backfilled. Once the upstream edge of the blanket is secured, the downstream edge shall be secured with 200 mm (8 in.) staples placed at 300 mm (1 ft) intervals along the edge. The polyethylene ditch check shall be installed in the middle of the erosion control blanket, with the lip of each panel facing outward.

The ditch check shall consist of two panels placed back to back forming a single row. Placement of the first two panels shall be at the toe of the backslope or sideslope, with the panels extending across the bottom of the ditch. Subsequent panels shall extend both across the bottom of the ditch and up the opposite sideslope, as well as up the original backslope or sideslope at the distance determined by the Engineer.

The M pins shall be driven through the panel lips to secure the panels to the ground. M pins shall be installed in the center of the panels with adjacent panels overlapping the ends a minimum of 50 mm (2 in.). The pins shall be placed through both sets of panels at each overlap. They shall be installed at an interval of three M pins per one meter (39 in.) length of ditch check. The panels shall be wedged into the M pins at the top to ensure firm contact between the entire bottom of the panels and the soil."

80087

TRAFFIC CONTROL DEFICIENCY DEDUCTION (BDE)

Effective: April 1, 1992

Revised: January 1, 2005

To ensure a prompt response to incidents involving the integrity of work zone traffic control, the Contractor shall provide a telephone number where a responsible individual can be contacted 24 hours-a-day.

When the Engineer is notified, or determines a traffic control deficiency 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 12 hours based upon the urgency of the situation and the nature of the deficiency. The Engineer shall be the sole judge.

A deficiency may be any lack of repair, maintenance, or non-compliance with the traffic control plan. A deficiency may also be applied to situations where corrective action is not an option such as the use of non-certified flaggers for short term operations; working with lane closures beyond the time allowed in the contract; or failure to perform required contract obligations such as traffic control surveillance.

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 \$1,000 or 0.05 percent of the awarded contract value, whichever is greater. For those deficiencies where corrective action was not an option this monetary deduction will be immediate.

In addition, if the Contractor fails to respond, the Engineer may correct the deficiency and the cost thereof will be deducted from monies due or which may become due the Contractor. This corrective action will in no way relieve the Contractor of his/her contractual requirements or responsibilities.

5729I

WEIGHT CONTROL DEFICIENCY DEDUCTION (BDE)

Effective: April 1, 2001
Revised: August 1, 2002

The Contractor shall provide accurate weights of materials delivered to the contract for incorporation into the work (whether temporary or permanent) and for which the basis of payment is by weight. These weights shall be documented on delivery tickets which shall identify the source of the material, type of material, the date and time the material was loaded, the contract number, the net weight, the tare weight when applicable and the identification of the transporting vehicle. For aggregates, the Contractor shall have the driver of the vehicle furnish or establish an acceptable alternative to provide the contract number and a copy of the material order to the source for each load. The source is defined as that facility that produces the final material product that is to be incorporated into the contract pay items.

The Department will conduct random, independent vehicle weight checks for material sources according to the procedures outlined in the Documentation Section Policy Statement of the Department's Construction Manual and hereby incorporated by reference. The results of the independent weight checks shall be applicable to all contracts containing this Special Provision. Should the vehicle weight check for a source result in the net weight of material on the vehicle exceeding the net weight of material shown on the delivery ticket by 0.50% (0.70% for aggregates) or more, the Engineer will document the independent vehicle weight check and immediately furnish a copy of the results to the Contractor. No adjustment in pay quantity will be made. Should the vehicle weight check for a source result in the net weight of material shown on the delivery ticket exceeding the net weight of material on the vehicle by 0.50% (0.70% for aggregates) or more, the Engineer will document the independent vehicle weight check and immediately furnish a copy of the results to the Contractor. The Engineer will adjust the net weight shown on the delivery ticket to the checked delivered net weight as determined by the independent vehicle weight check.

The Engineer will also adjust the method of measurement for all contracts for subsequent deliveries of all materials from the source based on the independent weight check. The net weight of all materials delivered to all contracts containing this Special Provision from this source, for which the basis of payment is by weight, will be adjusted by applying a correction factor "A" as determined by the following formula:

$$A = 1.0 - \left(\frac{B - C}{B} \right); \text{ Where } A \leq 1.0; \left(\frac{B - C}{C} \right) > 0.50\% \text{ (0.70\% for aggregates)}$$

Where A = Adjustment factor
B = Net weight shown on delivery ticket
C = Net weight determined from independent weight check

The adjustment factor will be applied as follows:

$$\text{Adjusted Net Weight} = A \times \text{Delivery Ticket Net Weight}$$

The adjustment factor will be imposed until the cause of the deficient weight is identified and corrected by the Contractor to the satisfaction of the Engineer. If the cause of the deficient weight is not identified and corrected within seven (7) calendar days, the source shall cease delivery of all materials to all contracts containing this Special Provision for which the basis of payment is by weight.

Should the Contractor elect to challenge the results of the independent weight check, the Engineer will continue to document the weight of material for which the adjustment factor would be applied. However, provided the Contractor furnishes the Engineer with written documentation that the source scale has been calibrated within seven (7) calendar days after the date of the independent weight check, adjustments in the weight of material paid for will not be applied unless the scale calibration demonstrates that the source scale was not within the specified Department of Agriculture tolerance.

At the Contractor's option, the vehicle may be weighed on a second independent Department of Agriculture certified scale to verify the accuracy of the scale used for the independent weight check.

80048

WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

Effective: January 1, 2003

Revised: November 1, 2004

Add the following to Article 702.01 of the Standard Specifications:

"All devices and combinations of devices shall meet the requirements of the National Cooperative Highway Research Program (NCHRP) Report 350 for their respective categories. The categories are as follows:

Category 1 includes small, lightweight, channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, flexible delineators and plastic drums with no attachments. Category 1 devices shall be crash tested and accepted or may be self-certified by the manufacturer.

Category 2 includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. These include drums and vertical panels with lights, barricades and portable sign supports. Category 2 devices shall be crash tested and accepted for Test Level 3.

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions, truck mounted attenuators and other devices not meeting the definitions of Category 1 or 2. Category 3 devices shall be crash tested and accepted for either Test Level 3 or the test level specified.

Category 4 includes portable or trailer-mounted devices such as arrow boards, changeable message signs, temporary traffic signals and area lighting supports. Currently, there is no implementation date set for this category and it is exempt from the NCHRP 350 compliance requirement.

The Contractor shall provide a manufacturer's self-certification letter for each Category 1 device and an FHWA acceptance letter for each Category 2 and Category 3 device used on the contract. The letters shall state the device meets the NCHRP 350 requirements for its respective category and test level, and shall include a detail drawing of the device."

Delete the third, fourth and fifth paragraphs of Article 702.03(b) of the Standard Specifications.

Delete the third sentence of the first paragraph of Article 702.03(c) of the Standard Specifications.

Revise the first sentence of the first paragraph of Article 702.03(e) of the Standard Specifications to read:

"Drums shall be nonmetallic and have alternating reflectorized Type AA or Type AP fluorescent orange and reflectorized white horizontal, circumferential stripes."

Add the following to Article 702.03 of the Standard Specifications:

"(h) Vertical Barricades. Vertical barricades may be used in lieu of cones, drums or Type II barricades to channelize traffic."

Delete the fourth paragraph of Article 702.05(a) of the Standard Specifications.

Revise the sixth paragraph of Article 702.05(a) of the Standard Specifications to read:

"When the work operations exceed four days, all signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. When approved by the Engineer, a temporary sign stand may be used to support a sign at 1.2 m (5 ft) minimum where posts are impractical. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 30 m (100 ft) to avoid obstacles, hazards or to improve sight distance, when approved by the Engineer. "ROAD CONSTRUCTION AHEAD" signs will also be required on side roads located within the limits of the mainline "ROAD CONSTRUCTION AHEAD" signs."

Delete all references to "Type 1A barricades" and "wing barricades" throughout Section 702 of the Standard Specifications.

80097

**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 qualifiable 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 an 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, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the 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 contractor's 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 superseded 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

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.il.gov/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.il.gov/desenv/subsc.html>.

If you have any questions concerning the wage rates, please contact IDOT's Chief Contract Official at 217-782-7806.