

# 151

**Letting April 28, 2023**

## **Notice to Bidders, Specifications and Proposal**



**Contract No. 61H93  
COOK County  
Section 19-00283-00-PV (Evanston)  
Route FAU 1329 (Main Street)  
Project QLBY-269 ()  
District 1 Construction Funds**

Prepared by

Checked by

F

(Printed by authority of the State of Illinois)



- 1. TIME AND PLACE OF OPENING BIDS.** Electronic bids are to be submitted to the electronic bidding system (iCX-Integrated Contractors Exchange). All bids must be submitted to the iCX system prior to 12:00 p.m. April 28, 2023 at which time the bids will be publicly opened from the iCX SecureVault.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 61H93  
COOK County  
Section 19-00283-00-PV (Evanston)  
Project QLBY-269 ()  
Route FAU 1329 (Main Street)  
District 1 Construction Funds**

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

By Order of the  
Illinois Department of Transportation

Omer Osman,  
Secretary

INDEX  
FOR  
SUPPLEMENTAL SPECIFICATIONS  
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2023

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 1-1-22) (Revised 1-1-23)

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## BDE SPECIAL PROVISIONS

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

<u>File Name</u>	<u>Pg.</u>	<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80099	160	<input checked="" type="checkbox"/> Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2022
80274	162	<input checked="" type="checkbox"/> Aggregate Subgrade Improvement	April 1, 2012	April 1, 2022
* 80192		<input type="checkbox"/> Automated Flagger Assistance Device	Jan. 1, 2008	April 1, 2023
80173	165	<input checked="" type="checkbox"/> Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
80426		<input type="checkbox"/> Bituminous Surface Treatment with Fog Seal	Jan. 1, 2020	Jan. 1, 2022
80436	167	<input checked="" type="checkbox"/> Blended Finely Divided Minerals	April 1, 2021	
80241		<input type="checkbox"/> Bridge Demolition Debris	July 1, 2009	
50531		<input type="checkbox"/> Building Removal	Sept. 1, 1990	Aug. 1, 2022
50261		<input type="checkbox"/> Building Removal with Asbestos Abatement	Sept. 1, 1990	Aug. 1, 2022
80384	168	<input checked="" type="checkbox"/> Compensable Delay Costs	June 2, 2017	April 1, 2019
80198		<input type="checkbox"/> Completion Date (via calendar days)	April 1, 2008	
80199		<input type="checkbox"/> Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80261	172	<input checked="" type="checkbox"/> Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
80434		<input type="checkbox"/> Corrugated Plastic Pipe (Culvert and Storm Sewer)	Jan. 1, 2021	
80029	175	<input checked="" type="checkbox"/> Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Mar. 2, 2019
80229		<input type="checkbox"/> Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
80447		<input type="checkbox"/> Grading and Shaping Ditches	Jan 1, 2023	
80433		<input type="checkbox"/> Green Preformed Thermoplastic Pavement Markings	Jan. 1, 2021	Jan. 1, 2022
80443		<input type="checkbox"/> High Tension Cable Median Barrier Removal	April 1, 2022	
80446		<input type="checkbox"/> Hot-Mix Asphalt – Longitudinal Joint Sealant	Nov. 1, 2022	
80438		<input type="checkbox"/> Illinois Works Apprenticeship Initiative – State Funded Contracts	June 2, 2021	Sept. 2, 2021
80045		<input type="checkbox"/> Material Transfer Device	June 15, 1999	Jan. 1, 2022
80441	185	<input checked="" type="checkbox"/> Performance Graded Asphalt Binder	Jan 1, 2023	
34261		<input type="checkbox"/> Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2022
80445		<input type="checkbox"/> Seeding	Nov. 1, 2022	
* 80448	190	<input checked="" type="checkbox"/> Source of Supply and Quality Requirements	Jan. 2, 2023	
80340		<input type="checkbox"/> Speed Display Trailer	April 2, 2014	Jan. 1, 2022
80127		<input type="checkbox"/> Steel Cost Adjustment	April 2, 2014	Jan. 1, 2022
80397	191	<input checked="" type="checkbox"/> Subcontractor and DBE Payment Reporting	April 2, 2018	
80391	192	<input checked="" type="checkbox"/> Subcontractor Mobilization Payments	Nov. 2, 2017	April 1, 2019
80437	193	<input checked="" type="checkbox"/> Submission of Payroll Records	April 1, 2021	Nov. 1, 2022
80435	195	<input checked="" type="checkbox"/> Surface Testing of Pavements – IRI	Jan. 1, 2021	Jan. 1, 2023
80410		<input type="checkbox"/> Traffic Spotters	Jan. 1, 2019	
20338	201	<input checked="" type="checkbox"/> Training Special Provisions	Oct. 15, 1975	Sept. 2, 2021
80429		<input type="checkbox"/> Ultra-Thin Bonded Wearing Course	April 1, 2020	Jan. 1, 2022
80439	204	<input checked="" type="checkbox"/> Vehicle and Equipment Warning Lights	Nov. 1, 2021	Nov. 1, 2022
80440		<input type="checkbox"/> Waterproofing Membrane System	Nov. 1, 2021	
80302	205	<input checked="" type="checkbox"/> Weekly DBE Trucking Reports	June 2, 2012	Nov. 1, 2021
80427	206	<input checked="" type="checkbox"/> Work Zone Traffic Control Devices	Mar. 2, 2020	
80071		<input type="checkbox"/> Working Days	Jan. 1, 2002	

**STATE OF ILLINOIS**

**SPECIAL PROVISIONS**

The following Special Provisions supplement the “Standard Specifications for Road and Bridge Construction”, Adopted January 1, 2022, (herein after called “the Standard Specifications”), the latest edition of the “Watershed Management Ordinance” of the Metropolitan Water Reclamation District of Greater Chicago, the latest edition of the Standard Specifications for Water and Sewer Construction in Illinois, the latest edition of the “Manual of Uniform Traffic Control Devices for Streets and Highways”, and the “Manual of Test Procedures of Materials” in effect on the date of invitation of bids, and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included herein which apply to the govern the construction designated as FAU Route 1329 (Main Street), Section 19-00283-00-PV in Cook County, Project Number QLBY(269), Contract Number 61H93, and in case of conflict with any part, or parts, of said Specifications, the said Special Provisions shall take precedence and shall govern.

FAU Route 1329 (Main Street)  
Section 19-00283-00-PV  
Cook County  
Contract No. 61H93

**LOCATION OF PROJECT**

This project is located along Main Street approximately 2,100 feet (0.40 miles) in gross length and 2,055 feet (0.39 miles) in net length between Maple Avenue and Hinman Avenue. The project is located in the City of Evanston in Cook County.

**DESCRIPTION OF PROJECT**

Work on this project includes tree installation, tree grates, sodding, driveway pavement, concrete curb and gutter, sidewalk, sidewalk brick banding, combined and storm sewer ranging from 8-inch to 18-inch diameter in size, related appurtenances, pavement resurfacing, permeable pavement, raised concrete speed table with brick pavers, light poles and foundations, underpass lighting, traffic signal improvements, parkway restoration and all materials, labor, equipment, and all incidental and collateral work necessary to complete the project as shown on the plans and described herein.

**AVAILABLE REPORTS (D1 LR)**

Effective: July 1, 2021

No project specific reports were prepared.

When applicable, the following checked reports and record information is available for Bidders' reference upon request:

Record structural plans

- Preliminary Site Investigation (PSI) (IDOT ROW)
- Preliminary Site Investigation (PSI) (Local ROW)
- Preliminary Environmental Site Assessment (PESA) (IDOT ROW)
- Preliminary Environmental Site Assessment (PESA) (Local ROW)
- Soils/Geotechnical Report
- Boring Logs
- Pavement Cores
- Location Drainage Study (LDS)
- Hydraulic Report
- Noise Analysis
- Other: \_\_\_\_\_

Those seeking these reports should request access from:

Mr. Chris Venatta  
Senior Project Manager  
Capital Planning and Engineering  
Public Works Agency  
City of Evanston  
(847) 448-8129  
[cvenatta@cityofevanston.org](mailto:cvenatta@cityofevanston.org)  
available Monday-Friday, 8a.m.- 5p.m.

### **MAINTENANCE OF ROADWAYS (D1)**

Effective: September 30, 1985

Revised: November 1, 1996

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

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

**STATUS OF UTILITIES (D-1)**

Effective: June 1, 2016  
 Revised: January 1, 2020

Utility companies and/or municipal owners located within the construction limits of this project have provided the following information regarding their facilities and the proposed improvements. The tables below contain a description of specific conflicts to be resolved and/or facilities which will require some action on the part of the Department’s contractor to proceed with work. Each table entry includes an identification of the action necessary and, if applicable, the estimated duration required for the resolution.

**UTILITIES TO BE ADJUSTED**

Conflicts noted below have been identified by following the suggested staging plan included in the contract. The company has been notified of all conflicts and will be required to obtain the necessary permits to complete their work; in some instances, resolution will be a function of the construction staging. The responsible agency must relocate, or complete new installations as noted below; this work has been deemed necessary to be complete for the Department’s contractor to then work in the stage under which the item has been listed.

**Pre-Stage**

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	DURATION OF TIME
Main Street / Sherman Avenue Sta. 19+33.38, 46.23’ LT.	Electric	Existing ComEd duct is in conflict with a proposed catch basin. Designer had meetings with ComEd to discuss the conflict and ComEd performed test holes to locate the actual location of the duct bank.	ComEd	5 days. ComEd started relocation fieldwork on 11/16/22.

Main St / Sherman Ave Sta. 19+82, 98' RT. to 90' LT.	Gas	Existing Nicor lines along Main Street, Sherman Avenue, and Chicago Avenue are being retired and new lines being installed.	Nicor	12 days.
Main St Sta. 19+82 to 21+58, 28' LT				
Main St Sta. 26+89 to 28+07, 30' RT.				
Main St / Chicago Ave Sta. 26+89, 30' RT. to 85' LT				

**Pre-Stage:   17   Days Total Installation**

The following contact information is what was used during the preparation of the plans as provided by the Agency/Company responsible for resolution of the conflict.

Agency/Company Responsible to Resolve Conflict	Name of contact	Phone	E-mail address
ComEd	Dan Mendez	773-799-6111	Daniel.mendez@ComEd.com
Nicor	Patricio Munoz	708-259-0939	pmunoz@southernco.com

**UTILITIES TO BE WATCHED AND PROTECTED**

The areas of concern noted below have been identified by following the suggested staging plan included for the contract. The information provided is not a comprehensive list of all remaining utilities, but those which during coordination were identified as ones which might require the Department's contractor to take into consideration when making the determination of the means and methods that would be required to construct the proposed improvement. In some instances, the contractor will be responsible to notify the owner in advance of the work to take place so necessary staffing on the owner's part can be secured.

**Stage 1B**

LOCATION	TYPE	DESCRIPTION	OWNER
Main Street Sta. 13+11.60, 24.12' LT	Communication	There is an existing duct near the location of a proposed light pole foundation.	AT&T
Main Street Sta. 23+78.06, 19.61' LT	Communication	There is an existing duct near the location of a proposed light pole foundation.	AT&T

The following contact information is what was used during the preparation of the plans as provided by the owner of the facility.

<b>Agency/Company Responsible to Resolve Conflict</b>	<b>Name of contact</b>	<b>Address</b>	<b>Phone</b>	<b>e-mail address</b>
AT&T/Distribution	Chris Cass	1000 Commerce Drive Oak Brook, IL 60523	708-972-8992	cc4361@att.com
AT&T/T-TCG	Bobby Akhter	1000 Commerce Drive Oak Brook, IL 60523	630-390-0089	ba3817@att.com
Comcast	Martha Gieras	688 Industrial Drive Elmhurst, IL 60126	630-396-8225	martha_gieras@comcast.com
ComEd	Terri Bleck	860 Oak Creek Drive Lombard, IL 60148	224-229-5862	terri.bleck@comed.com
Centurylink	Patrick Provost	1025 El Dorado Blvd Broomfield, CO 80021	877-366-8344 x2	nationalrelo@centurylink.com
MCI	Tom Buher	P.O. Box 387 7719 West 60 <sup>th</sup> Place Summit, IL 60501	708-458-6410	investigations@verizon.com
Nicor Gas	Sakibul Forah	1844 Ferry Road Naperville, IL 60563	630-388-2903	sforah@southernco.com
RCN	Jose Gutierrez		312-404-6910	jose.gutierrez@rcn.net
Unite Private Networks	George Forbes		478-832-0669	george.forbes@upnfiber.com
Wide Open West	Paul Flinkow	1674 Frontenac Road Naperville, IL 60563	630-536-3139	paul.flinkow@wowinc.com

The above represents the best information available to the Department and is included for the convenience of the bidder. The days required for conflict resolution should be considered in the bid as this information has also been factored into the timeline identified for the project when

setting the completion date. The applicable portions of the Standard Specifications for Road and Bridge Construction shall apply.

Estimated duration of time provided above for the first conflicts identified will begin on the date of the executed contract regardless of the status of the utility relocations. The responsible agencies will be working toward resolving subsequent conflicts in conjunction with contractor activities in the number of days noted.

The estimated relocation duration must be part of the progress schedule submitted by the contractor. A utility kickoff meeting will be scheduled between the Department, the Department's contractor and the utility companies when necessary. The Department's contractor is responsible for contacting J.U.L.I.E. prior to all excavation work.

### **PUBLIC CONVENIENCE AND SAFETY (D1)**

Effective: May 1, 2012

Revised: July 15, 2012

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

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

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

"The Length of Holiday Period for Thanksgiving shall be from 5:00 AM the Wednesday prior to 11:59 PM the Sunday After"

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

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

### **COMPLETION DATE PLUS WORKING DAYS (D1)**

Effective: September 30, 1985

Revised: January 1, 2007

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

"When a completion date plus working days is specified, the Contractor shall complete all contract items and safely open all roadways to traffic by 11:59 PM on, October 31, 2023 except as specified herein.

The Contractor will be allowed to complete all clean-up work and punch list items within 10 working days after the completion date for opening the roadway to traffic. Under extenuating circumstances the Engineer may direct that certain items of work, not affecting the safe opening of the roadway to traffic, may be completed within the working days allowed for clean



up work and punch list items. Temporary lane closures for this work may be allowed at the discretion of the Engineer.

Article 108.09 or the Special Provision for "Failure to Complete the Work on Time", if included in this contract, shall apply to both the completion date and the number of working days.

**COARSE AGGREGATE FOR BACKFILL, TRENCH BACKFILL AND BEDDING (D1)**

Effective: November 1, 2011

Revised: November 1, 2013

This work shall be according to Section 1004.05 of the Standard Specifications except for the following:

Reclaimed Asphalt Pavement (RAP) maybe blended with gravel, crushed gravel, crushed stone crushed concrete, crushed slag, chats, crushed sand stone or wet bottom boiler slag. The RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications". The RAP shall be uniformly graded and shall pass the 1.0 in. (25 mm) screen. When RAP is blended with any of the coarse aggregate listed above, the blending shall be done mechanically with calibrated feeders. The feeders shall have an accuracy of + 2.0 percent of the actual quantity of material delivered. The final blended product shall not contain more than 40 percent by weight RAP.

The coarse aggregate listed above shall meet CA 6 and CA 10 gradations prior to being blended with the processed and uniformly graded RAP. Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

**RECLAIMED ASPHALT PAVEMENT FOR NON-POROUS EMBANKMENT AND BACKFILL (D1)**

Effective: April 1, 2001

Revised: January 1, 2007

Add the following sentence to Article 1004.05 (a) of the Standard Specifications:

"Reclaimed Asphalt Pavement (RAP) may be used as aggregate in Non-porous Granular Embankment and Backfill. The RAP material shall be reclaimed asphalt pavement material resulting from the cold milling or crushing of an existing hot-mix bituminous concrete pavement structure, including shoulders. RAP containing contaminants such as earth, brick, concrete, sheet asphalt, sand, or other materials identified by the Department will be unacceptable until the contaminants are thoroughly removed.

Add the following sentence to Article 1004.05 (c)(2) of the Standard Specifications:

"One hundred percent of the RAP when used shall pass the 3 inch (75 mm) sieve. The RAP shall be well graded from coarse to fine. RAP that is gap-graded or single-sized will not be accepted."

**HOT-MIX ASPHALT BINDER AND SURFACE COURSE (D1)**

Effective: November 1, 2019

Revised: December 1, 2021

Revise Article 1004.03(c) to read:

“(c) Gradation. The coarse aggregate gradations shall be as listed in the following table.

Use	Size/Application	Gradation No.
Class A-1, A-2, & A-3	3/8 in. (10 mm) Seal	CA 16 or CA 20
Class A-1	1/2 in. (13 mm) Seal	CA 15
Class A-2 & A-3	Cover Coat	CA 14
HMA High ESAL	IL-19.0; Stabilized Subbase IL-19.0	CA 11 <sup>1/</sup>
	SMA 12.5 <sup>2/</sup>	CA 13 <sup>4/</sup> , CA 14, or CA 16
	SMA 9.5 <sup>2/</sup>	CA 13 <sup>3/4/</sup> or CA 16 <sup>3/</sup>
	IL-9.5	CA 16, CM 13 <sup>4/</sup>
	IL-9.5FG	CA 16
HMA Low ESAL	IL-19.0L	CA 11 <sup>1/</sup>
	IL-9.5L	CA 16

- 1/ CA 16 or CA 13 may be blended with the CA 11.
- 2/ The coarse aggregates used shall be capable of being combined with the fine aggregates and mineral filler to meet the approved mix design and the mix requirements noted herein.
- 3/ The specified coarse aggregate gradations may be blended.
- 4/ CA 13 shall be 100 percent passing the 1/2 in. (12.5mm) sieve.”

Revise Article 1004.03(e) of the Supplemental Specifications to read:

“(e) Absorption. For SMA the coarse aggregate shall also have water absorption ≤ 2.0 percent.”

Revise the “High ESAL” portion of the table in Article 1030.01 to read:

“High ESAL	Binder Courses	IL-19.0, IL-9.5, IL-9.5FG, IL-4.75, SMA 12.5, Stabilized Subbase IL-19.0
	Surface Courses	IL-9.5, IL-9.5FG, SMA 12.5, SMA 9.5”

Revise Note 2. and add Note 6 to Article 1030.02 of the Standard Specifications to read:

“Item	Article/Section
(g) Performance Graded Asphalt Binder (Note 6)	1032
(h) Fibers (Note 2)	

Note 2. A stabilizing additive such as cellulose or mineral fiber shall be added to the SMA mixture according to Illinois Modified AASHTO M 325. The stabilizing additive shall meet the Fiber Quality Requirements listed in Illinois Modified AASHTO M 325. Prior to approval and use of fibers, the Contractor shall submit a notarized certification by the producer of these materials stating they meet these requirements. Reclaimed Asphalt Shingles (RAS) may be used in Stone Matrix Asphalt (SMA) mixtures designed with an SBA polymer modifier as a fiber additive if the mix design with RAS included meets AASHTO T305 requirements. The RAS shall be from a certified source that produces either Type I or Type 2. Material shall meet requirements noted herein and the actual dosage rate will be determined by the Engineer.

Note 6. The asphalt binder shall be an SBS PG 76-28 when the SMA is used on a full-depth asphalt pavement and SBS PG 76-22 when used as an overlay, except where modified herein. The asphalt binder shall be a SBS PG 76-22 for IL-4.75, except where modified herein..”

Revise table in Article 1030.05(a) of the Standard Specifications to read:

"MIXTURE COMPOSITION (% PASSING) <sup>1/</sup>												
Sieve Size	IL-19.0 mm		SMA 12.5		SMA 9.5		IL-9.5mm		IL-9.5FG		IL-4.75 mm	
	min	max	min	max	min	max	min	max	min	max	min	max
1 1/2 in. (37.5 mm)												
1 in. (25 mm)		100										
3/4 in. (19 mm)	90	100		100								
1/2 in. (12.5 mm)	75	89	80	100		100		100		100		100
3/8 in. (9.5 mm)				65	90	100	90	100	90	100		100
#4 (4.75 mm)	40	60	20	30	36	50	34	69	60	75 <sup>6/</sup>	90	100
#8 (2.36 mm)	20	42	16	24 <sup>4/</sup>	16	32 <sup>4/</sup>	34 <sup>5/</sup>	52 <sup>2/</sup>	45	60 <sup>6/</sup>	70	90
#16 (1.18 mm)	15	30					10	32	25	40	50	65
#30 (600 μm)			12	16	12	18			15	30		
#50 (300 μm)	6	15					4	15	8	15	15	30
#100 (150 μm)	4	9					3	10	6	10	10	18
#200 (75 μm)	3.0	6.0	7.0	9.0 <sup>3/</sup>	7.5	9.5 <sup>3/</sup>	4.0	6.0	4.0	6.5	7.0	9.0 <sup>3/</sup>
#635 (20 μm)			≤ 3.0		≤ 3.0							
Ratio Dust/Asphalt Binder		1.0		1.5		1.5		1.0		1.0		1.0

- 1/ Based on percent of total aggregate weight.
- 2/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with N<sub>design</sub> = 90.
- 3/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.
- 4/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted above the percentage stated on the table.
- 5/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted below 34 percent.

6/ When the mixture is used as a binder, the maximum shall be increased by 0.5 percent passing.”

Revise Article 1030.05(b) of the Standard Specifications to read:

(b) Volumetric Requirements. The target value for the air voids of the HMA shall be 4.0 percent, for IL-4.75 and SMA mixtures it shall be 3.5 percent and for Stabilized Subbase it shall be 3.0 percent at the design number of gyrations. The voids in the mineral aggregate (VMA) and voids filled with asphalt binder (VFA) of the HMA design shall be based on the nominal maximum size of the aggregate in the mix and shall conform to the following requirements.

Mix Design	Voids in the Mineral Aggregate (VMA), % Minimum for Ndesign				
	30	50	70	80	90
IL-19.0		13.5	13.5		13.5
IL-9.5		15.0	15.0		
IL-9.5FG		15.0	15.0		
IL-4.75 <sup>1/</sup>		18.5			
SMA-12.5 <sup>1/2/5/</sup>				17.0 <sup>3/</sup> /16.0 <sup>4/</sup>	
SMA-9.5 <sup>1/2/5/</sup>				17.0 <sup>3/</sup> /16.0 <sup>4/</sup>	
IL-19.0L	13.5				
IL-9.5L	15.0				

- 1/ Maximum draindown shall be 0.3 percent according to Illinois Modified AASHTO T 305.
- 2/ The draindown shall be determined at the JMF asphalt binder content at the mixing temperature plus 30°F.
- 3/ Applies when specific gravity of coarse aggregate is  $\geq 2.760$ .
- 4/ Applies when specific gravity of coarse aggregate is  $< 2.760$ .
- 5/ For surface course, the coarse aggregate can be crushed steel slag, crystalline crushed stone or crushed sandstone. For binder course, coarse aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone”

Revise the last paragraph of Article 1102.01 (a) (5) of the Standard Specifications to read:

“IL-4.75 and Stone Matrix Asphalt (SMA) mixtures which contain aggregate having absorptions greater than or equal to 2.0 percent, or which contain steel slag sand, shall have minimum surge bin storage plus haul time of 1.5 hours.”

Add after third sentence of Article 1030.09(b) to read:

“If the Contractor and Engineer agree the nuclear density test method is not appropriate for the mixture, cores shall be taken at random locations determined according to the QC/QA document "Determination of Random Density Test Site Locations". Core densities shall be determined using the Illinois Modified AASHTO T 166 or T 275 procedure.”

Revise Table 1 and Note 4/ of Table 1 in Article 406.07(a) of the Standard Specifications to read:

	Breakdown/Intermediate Roller (one of the following)	Final Roller (one or more of the following)	Density Requirement
IL-9.5, IL-9.5FG, IL-19.0 <sup>1/</sup>	V <sub>D</sub> , P, T <sub>B</sub> , 3W, O <sub>T</sub> , O <sub>B</sub>	V <sub>S</sub> , T <sub>B</sub> , T <sub>F</sub> , O <sub>T</sub>	As specified in Section 1030
IL-4.75 and SMA <sup>3/ 4/</sup>	T <sub>B</sub> , 3W, O <sub>T</sub>	T <sub>F</sub> , 3W	As specified in Section 1030
Mixtures on Bridge Decks <sup>2/</sup>	T <sub>B</sub>	T <sub>F</sub>	As specified in Articles 582.05 and 582.06.

“4/ The Contractor shall provide a minimum of two steel-wheeled tandem rollers (T<sub>B</sub>), and/or three-wheel (3W) rollers for breakdown, except one of the (T<sub>B</sub>) or (3W) rollers shall be 84 inches (2.14 m) wide and a weight of 315 pound per linear inch (PLI) (5.63 kg/mm) and one of the (T<sub>B</sub>) or (3W) rollers can be substituted for an oscillatory roller (O<sub>T</sub>). T<sub>F</sub> rollers shall be a minimum of 280 lb/in. (50 N/mm). The 3W and T<sub>B</sub> rollers shall be operated at a uniform speed not to exceed 3 mph (5 km/h), with the drive roll for T<sub>B</sub> rollers nearest the paver and maintain an effective rolling distance of not more than 150 ft (45 m) behind the paver.”

Add the following after the fourth paragraph of Article 406.13 (b):

“The plan quantities of SMA mixtures shall be adjusted using the actual approved binder and surface Mix Design’s G<sub>mb</sub>.”

Revise first paragraph of Article 1030.10 of the Standard Specifications to read:

“A test strip of 300 ton (275 metric tons), except for SMA mixtures it will be 400 ton (363 metric ton), will be required for each mixture on each contract at the beginning of HMA production for each construction year according to the Manual of Test Procedures for Materials “Hot Mix Asphalt Test Strip Procedures”. At the request of the Producer, the Engineer may waive the test strip if previous construction during the current construction year has demonstrated the constructability of the mix using Department test results.”

Revise third paragraph of Article 1030.10 of the Standard Specifications to read:

“When a test strip is constructed, the Contractor shall collect and split the mixture according to the document “Hot-Mix Asphalt Test Strip Procedures”. The Engineer, or a representative, shall deliver split sample to the District Laboratory for verification testing. The

Contractor shall complete mixture tests stated in Article 1030.09(a). Mixture sampled shall include enough material for the Department to conduct mixture tests detailed in Article 1030.09(a) and in the document "Hot-Mix Asphalt Mixture Design Verification Procedure" Section 3.3. The mixture test results shall meet the requirements of Articles 1030.05(b) and 1030.05(d), except Hamburg wheel tests will only be conducted on High ESAL mixtures during production."

## **ADJUSTMENTS AND RECONSTRUCTIONS (D1)**

Effective: March 15, 2011

Revise the first paragraph of Article 602.04 to read:

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

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

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

Revise Article 603.05 to read:

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

Revise Article 603.06 to read:

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

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

Revise the first sentence of Article 603.07 to read:

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

**DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (D1)**

Effective: April 1, 2011  
 Revised: April 2, 2011

Add the following to Article 603.02 of the Standard Specifications:

- “(i) Temporary Hot-Mix Asphalt (HMA) Ramp (Note 1) ..... 1030
- “(j) Temporary Rubber Ramps (Note 2)

Note 1. The HMA shall have maximum aggregate size of 3/8 in. (95 mm).

Note 2. The rubber material shall be according to the following.

Property	Test Method	Requirement
Durometer Hardness, Shore A	ASTM D 2240	75 ±15
Tensile Strength, psi (kPa)	ASTM D 412	300 (2000) min
Elongation, percent	ASTM D 412	90 min
Specific Gravity	ASTM D 792	1.0 - 1.3
Brittleness, °F (°C)	ASTM D 746	-40 (-40)”

Revise Article 603.07 of the Standard Specifications to read:

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

When castings are under traffic before the final surfacing operation has been started, properly sized temporary ramps shall be placed around the drainage and/or utility castings according to the following methods.

- (a) Temporary Asphalt Ramps. Temporary hot-mix asphalt ramps shall be placed around the casting, flush with its surface and decreasing to a featheredge in a distance of 2 ft (600 mm) around the entire surface of the casting.
- (b) Temporary Rubber Ramps. Temporary rubber ramps shall only be used on roadways with permanent posted speeds of 40 mph or less and when the height of the casting to be protected meets the proper sizing requirements for the rubber ramps as shown below.



Dimension	Requirement
Inside Opening	Outside dimensions of casting + 1 in. (25 mm)
Thickness at inside edge	Height of casting $\pm$ 1/4 in. (6 mm)
Thickness at outside edge	1/4 in. (6 mm) max.
Width, measured from inside opening to outside edge	8 1/2 in. (215 mm) min

Placement shall be according to the manufacturer’s specifications.

Temporary ramps for castings shall remain in place until surfacing operations are undertaken within the immediate area of the structure. Prior to placing the surface course, the temporary ramp shall be removed. Excess material shall be disposed of according to Article 202.03.”

**ENGINEER’S FIELD OFFICE TYPE A (D1)**

Effective: January 1, 2022

Revise the first paragraph of Article 670.02 to read:

**670.02 Engineer’s Field Office Type A (D1).** Type A (D1) field offices shall have a ceiling height of not less than 7 feet and a floor space of not less than 1000 square feet with a minimum of two separate offices. The office shall also have a separate storage room capable of being locked for the storage of the nuclear measuring devices. The office shall be provided with sufficient heat, natural and artificial light, and air conditioning. Doors and windows shall be equipped with locks approved by the Engineer.

Add the following to Article 670.07 Basis of Payment.

The building or buildings, fully equipped, will be paid for at the contract unit price per calendar month or fraction thereof for ENGINEER’S FIELD OFFICE, TYPE A (D1).

**TRAFFIC CONTROL AND PROTECTION (ARTERIALS) (D1)**

Effective: February 1, 1996

Revised: March 1, 2011

Specific traffic control plan details and Special Provisions have been prepared for this contract. This work shall include all labor, materials, transportation, handling and incidental work necessary to furnish, install, maintain and remove all traffic control devices required as indicated in the plans and as approved by the Engineer.

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

Method of Measurement: All traffic control (except "Traffic Control and Protection (Expressways)" and temporary pavement markings) indicated on the traffic control plan details and specified in the Special Provisions will be measured for payment on a lump sum basis.

Basis of Payment: All traffic control and protection will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL).

Temporary pavement markings will be paid for separately unless shown on a Standard.

### **TRAFFIC CONTROL PLAN**

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

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

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

#### STANDARDS:

701006-05, 701301-04, 7011311-03, 701501-06, 701701-10, 701801-06, 701901-08, 704001-08

#### DETAILS:

TC-10: TRAFFIC CONTROL AND PROTECTION FOR SIDES ROADS, INTERSECTIONS, AND DRIVEWAYS

TC-13: DISTRICT ONE TYPICAL PAVEMENT MARKINGS

TC-16: SHORT TERM PAVEMENT MARKING LETTERS AND SYMBOLS

TC-21: DETOUR SIGNING FOR CLOSING STATE HIGHWAYS

TC-26: DRIVEWAY ENTRANCE SIGNING

#### SPECIAL PROVISIONS:

Maintenance of Roadways (D1)

Public Convenience and Safety (D 1)

Traffic Control and Protection (Arterials) (D1)

Traffic Control and Protection, (Special)

Maintenance of Access to Abutting Property

Work Zone Traffic Control Devices (BDE)

Vehicle and Equipment Warning Lights (BDE)

Pavement and Shoulder Resurfacing (Recurr CS #13)

Work Zone and Traffic Control Surveillance (LRS #3)

It will also be necessary for the Contractor to provide advance written notice to residents, police, fire, school districts, and trash haulers when access to any street and/or driveway will be temporarily closed or limited. At least one lane access must be provided to all commercial property at all times unless directed otherwise by the Engineer in writing. Notices shall be delivered 24 hours prior to any temporary closures and shall provide a re-entrance date to the owners. Notices shall be reviewed and approved by the Engineer prior to issuance.

During construction, the Contractor shall provide traffic control as shown on the plans, and specified herein, and any other temporary protection where necessary for public safety at all times. Should traffic protection be determined to be inadequate by the Engineer, The City of Evanston will take necessary actions to protect the public, and the cost of this work will be charged to the Contractor.

**Basis of Payment.** This work will be considered included in the contract lump sum price for TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

**FRICITION AGGREGRATE (D1)**

Effective: January 1, 2011  
 Revised: December 1, 2021

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

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

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

Use	Mixture	Aggregates Allowed
Class A	Seal or Cover	<u>Allowed Alone or in Combination</u> <sup>5/</sup> : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete

Use	Mixture	Aggregates Allowed	
HMA Low ESAL	Stabilized Subbase or Shoulders	<u>Allowed Alone or in Combination</u> <sup>5/</sup> : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag <sup>1/</sup> Crushed Concrete	
HMA High ESAL Low ESAL	Binder IL-19.0 or IL-19.0L  SMA Binder	<u>Allowed Alone or in Combination</u> <sup>5/ 6/</sup> : Crushed Gravel Carbonate Crushed Stone <sup>2/</sup> Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete <sup>3/</sup>	
HMA High ESAL Low ESAL	C Surface and Binder IL-9.5 IL-9.5FG or IL-9.5L	<u>Allowed Alone or in Combination</u> <sup>5/</sup> : Crushed Gravel Carbonate Crushed Stone <sup>2/</sup> Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag <sup>4/</sup> Crushed Concrete <sup>3/</sup>	
HMA High ESAL	D Surface and Binder IL-9.5 or IL-9.5FG	<u>Allowed Alone or in Combination</u> <sup>5/</sup> : Crushed Gravel Carbonate Crushed Stone (other than Limestone) <sup>2/</sup> Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag <sup>4/</sup>	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		25% Limestone	Dolomite
50% Limestone	Any Mixture D aggregate other than Dolomite		

Use	Mixture	Aggregates Allowed	
		75% Limestone	Crushed Slag (ACBF) or Crushed Sandstone
HMA High ESAL	E Surface IL-9.5  SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination</u> <sup>5/6/</sup> : Crushed Gravel Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag  No Limestone.	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		50% Dolomite <sup>2/</sup>	Any Mixture E aggregate
		75% Dolomite <sup>2/</sup>	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone
75% Crushed Gravel <sup>2/</sup>	Crushed Sandstone, Crystalline Crushed Stone, Crushed Slag (ACBF), or Crushed Steel Slag		
HMA High ESAL	F Surface IL-9.5  SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination</u> <sup>5/6/</sup> : Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>

Use	Mixture	Aggregates Allowed	
		50% Crushed Gravel <sup>2/</sup> or Dolomite <sup>2/</sup>	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone

- 1/ Crushed steel slag allowed in shoulder surface only.
- 2/ Carbonate crushed stone (limestone) and/or crushed gravel shall not be used in SMA Ndesign 80.
- 3/ Crushed concrete will not be permitted in SMA mixes.
- 4/ Crushed steel slag shall not be used as binder.
- 5/ When combinations of aggregates are used, the blend percent measurements shall be by volume.”
- 6/ Combining different types of aggregate will not be permitted in SMA Ndesign 80.”

**HOT-MIX ASPHALT – MIXTURE DESIGN VERIFICATION AND PRODUCTION (D1)**

Effective: January 1, 2019  
 Revised: December 1, 2021

Add to Article 1030.05 (d)(3) of the Standard Specifications to read:

“ During mixture design, prepared samples shall be submitted to the District laboratory by the Contractor for verification testing. The required testing, and number and size of prepared samples submitted, shall be according to the following tables.

High ESAL – Required Samples for Verification Testing	
Mixture	Hamburg Wheel and I-FIT Testing <sup>1/ 2/</sup>
Binder	total of 3 - 160 mm tall bricks
Surface	total of 4 - 160 mm tall bricks

Low ESAL – Required Samples for Verification Testing	
Mixture	I-FIT Testing <sup>1/ 2/</sup>
Binder	1 - 160 mm tall brick
Surface	2 - 160 mm tall bricks

1/ The compacted gyratory bricks for Hamburg wheel and I-FIT testing shall be 7.5 ± 0.5 percent air voids.

- 2/ If the Contractor does not possess the equipment to prepare the 160 mm tall brick(s), twice as many 115 mm tall compacted gyratory bricks will be acceptable.

Revise the fourth paragraph of Article 1030.10 of the Standard Specifications to read:

“When a test strip is not required, each HMA mixture shall still be sampled on the first day of production: I-FIT and Hamburg wheel testing for High ESAL; I-FIT testing for Low ESAL. Within two working days after sampling the mixture, the Contractor shall deliver gyratory cylinders to the District laboratory for Department verification testing. The High ESAL mixture test results shall meet the requirements of Articles 1030.05(d)(3) and 1030.05(d)(4). The Low ESAL mixture test results shall meet the requirements of Article 1030.05(d)(4). The required number and size of prepared samples submitted for the Hamburg wheel and I-FIT testing shall be according to the “High ESAL - Required Samples for Verification Testing” table in Article 1030.05(d)(3) above.”

Add the following to the end of Article 1030.10 of the Standard Specifications to read:

“Mixture sampled during first day of production shall include approximately 60 lb (27 kg) of additional material for the Department to conduct Hamburg wheel testing and approximately 80 lb (36 kg) of additional material for the Department to conduct I-FIT testing. Within two working days after sampling, the Contractor shall deliver prepared samples to the District laboratory for verification testing. The required number and size of prepared samples submitted for the Hamburg wheel and I-FIT testing shall be according to the “High ESAL - Required Samples for Verification Testing” table in Article 1030.05(d)(3) above.”

## **TEMPORARY PAVEMENT (D1)**

Effective: March 1, 2003

Revised: April 10, 2008

Description. This work shall consist of constructing a temporary pavement at the locations shown on the plans or as directed by the engineer.

The contractor shall use either Portland cement concrete according to Sections 353 and 354 of the Standard Specifications or HMA according to Sections 355, 356, 406 of the Standard Specifications, and other applicable HMA special provisions as contained herein. The HMA mixtures to be used shall be specified in the plans. The thickness of the Temporary Pavement shall be as described in the plans. The contractor shall have the option of constructing either material type if both Portland cement concrete and HMA are shown in the plans.

Articles 355.08 and 406.11 of the Standard Specifications shall not apply.

The removal of the Temporary Pavement, if required, shall conform to Section 440 of the Standard Specification.

Method of Measurement. Temporary pavement will be measured in place and the area computed in square yards (square meters).

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

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

## **LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC**

Delete the first paragraph of Article 107.04 and replace it with the following:

“Owner will obtain approvals of the construction plans from the Metropolitan Water Reclamation District of Greater Chicago (MWRD or MWRDGC). The MWRD permit application was submitted on February 8, 2023. A copy of the approved MWRD permit will be provided to the Contractor. The Contractor shall at his/her own expense obtain all other required construction permits, licenses, insurance, and other appurtenant approvals or permissions for the execution of this Work; give all necessary notices; pay all fees required; fulfill all permit requirements, including construction standards, bond requirements, and insurance requirements; and, comply with all rules, regulations, ordinances, and laws relating to the Work and to the preservation of public health and safety.”

Add the following sentences to Article 107.08:

“Suitable toilet facilities shall be provided at the job site. The facilities and the location of same shall be approved by the Owner and shall be kept in a clean and sanitary condition. Sanitary sewer manholes or construction trenches may not be used for toilet facilities.”

Delete the first sentence of Article 107.09 and replace it with the following:

“The Contractor shall notify the Engineer at least thirty (30) days in advance of the starting of any construction work which might in any way inconvenience or endanger traffic, so arrangements can be made, if necessary, for closing the road and providing suitable detours.”

Add the following paragraphs to Article 107.09:

“The Contractor shall identify and obtain, at their own expense, other sites for storage of materials and equipment. Sites shall be approved by the Owner and shall conform to City zoning and land use regulations.

Contractors shall confine all work activities to the public right-of-ways, except areas designated as tree protection zones. If, for their convenience, Contractors wish to conduct work activities outside public right-of-ways, including storage of equipment and materials, Contractors shall obtain written permission from affected property owners prior to proceeding with these work activities. Costs of obtaining permission, permits, easements, site preparation, site maintenance, site restoration, and all other expenses associated with work outside right-of-ways and easements shall be borne by the Contractors at no additional expense to the Owner.

Construction materials may not be placed or stored along City streets and other public areas more than five (5) calendar days prior to their planned incorporation into the Project. Excess materials to be incorporated into the Project, including pipe, backfill materials, and other construction materials, not incorporated into the Project shall be removed from the construction site by the end of each day



and shall be disposed of in accordance with these Specifications. Temporary storage of materials shall not interfere with curb line storm drainage. Reclaimed construction materials shall be moved to the Contractor's storage areas. Excess spoils shall be removed at the end of each day.

Excess construction equipment not actively engaged in daily work operations shall be stored only in the Contractor's storage areas and not along City streets. Tracked construction equipment shall be moved from place to place in the City only on rubber-tired trailers. "Walking" of tracked equipment between construction areas is expressly prohibited. Refueling trucks shall not be parked on City streets and shall be returned to the Contractor's storage area when not in use. The Contractor shall provide off-street parking for personal vehicles belonging to the Contractor's employees, supplier's employees, and subcontractor's employees. These vehicles may not be parked along City streets or in Work areas. No trailers and/or connex containers will be allowed to be stored on/in the City of Evanston R.O.W.

Electrical power for construction operations outside normal project hours shall be obtained through temporary power drops from Commonwealth Edison facilities. The Contractor shall not use engine-driven generators for power at work sites or use other engine-driven equipment outside normal project work hours, including, but not limited to: pumps and compressors, except in emergency situations.

The Contractor shall provide receptacles as necessary at construction areas for depositing waste paper and garbage; and, shall empty these receptacles regularly. The Contractor shall keep the construction site and his storage sites neat and shall promptly clean up any debris that accumulates. All waste materials shall be hauled to a legal waste disposal site of the Contractor's choice.

The Contractor shall conduct operations so that access to homes and other buildings is maintained at all times when Contractor is not working at that specific location. The Contractor shall cooperate in efforts to notify home and other building owners as to when direct vehicular access to their property will be curtailed and the approximate length of time of such curtailment. Written and/or vocal notification shall be given to affected residents or tenants of the properties not less than 24 hours prior to access curtailment. The Contractor shall maintain access for emergency vehicles to all parts of the construction area at all times.

Where water service connections are made, the Contractor shall not place spoil on the parkway.

The Contractor shall provide for and maintain the flow in all sewers, drains, building or inlet connections and all water-courses which may be met with during the progress of the Work. The Contractor shall not allow the contents of any sewer, drain, or inlet connection to flow into trenches, sewers, or other structures to be constructed under the Contract and shall immediately remove and cart away from the vicinity of the Work all offensive matter. The Contractor shall not disrupt the function of individual sanitary services for more than four continuous hours. If construction operations are anticipated to disrupt individual services for more than four hours, the Contractor shall provide for temporary sanitary service for the duration of the disruption.

The Contractor shall provide for and maintain the flow in all water mains or services which may be met with during the progress of the Work. When water mains or services are to be disturbed to the extent that the water will be shut-off, the City of Evanston Utilities Department and all parties being served by the lines involved shall be notified in accordance with Article 561.03, giving them the time and duration of the shut-off period. In cases involving disruption of fire hydrants, the City of Evanston

Fire Department shall also be notified in accordance with Article 561.03. The Contractor shall not disrupt the function of individual water services for more than four continuous hours. If construction operations are anticipated to disrupt individual services for more than four hours, the Contractor shall provide for temporary water service for the duration of the disruption.

The Contractor shall promptly notify the proper utility company and all other effected parties of any damage to water, gas, electric, telephone, sewer, and other utility lines and connections caused by the Contractor's operations. The damage shall be immediately repaired at the Contractor's expense. In the case of an accidental breaking of a water main or service line, the repairs of such a break shall have priority over all other operations. The parties whose services are affected by the break shall be notified at once and all assistance given to supply emergency water where necessary by temporary lines, tank truck, or other means. The Contractor shall maintain an appropriate inventory of the materials for emergency repairs. In the case of an accidental breakage of a street light cable, the Contractor shall have a licensed electrical contractor repair any and all damage to the existing street light cables at the Contractor's expense.

The Contractor shall not allow travel upon any street, park, roadway, or alley to be hindered or inconvenienced needlessly, nor shall the same be wholly obstructed without the written permission of the Owner thereof. No construction vehicles shall be driven through or shall be parked in alleys unless so approved by the Engineer. Construction traffic shall be routed on major City through-streets. Construction traffic on minor streets shall be limited as much as is practical. All street closures must be approved by Engineer.

When traffic must be obstructed, the Contractor shall provide proper traffic control as accepted by the Engineer and Owner by placing clearly worded signs announcing such fact with proper barricades, at the nearest cross-streets on each side of such obstructed portion, where travel can pass around the obstruction in the shortest and easiest way. "No parking" signs must be approved by the Engineer and must be POSTED AND DATED at least 48 hours before the intended date of use. "No Parking" signs are to be purchased from the Owner. If vehicles are still parked in "No Parking" areas identified by the Contractor, the Contractor shall notify the Engineer who will contact the Evanston Police to have the vehicles towed away. No towing of vehicles shall be done by the Contractor.

Driveways to fire department buildings, driveways to medical buildings, and driveways to businesses required for continuance of their commerce shall be kept open and maintained in passable conditions at all times unless modified by agreement between the Contractor and the property owner. All agreements between the Contractor and private property owners must be in writing to be considered binding. The Contractor shall give reasonable notice to the owners of all private driveways before interfering with them. Daily construction operations shall be terminated at such locations that the operations of driveways are not obstructed. Driveways shall be passable between the hours of 6:00 p.m. and 9:00 am.

Delete Article 107.17 and replace it with the following:

**"107.17 Use of Explosives**

- (a) General

Blasting and other uses of explosives will not be permitted under this Contract."

Delete Article 107.18 and replace it with the following:

**“107.18 Use of Fire Hydrants.** If the Contractor desires to use water from hydrants, he shall fill out an application to the City of Evanston Utilities Department and shall conform to the municipal ordinances, rules, or regulations concerning their use. The Contractor shall obtain a use permit for each hydrant, and shall operate the hydrant properly. The Contractor is required to use an RPZ or appropriate back flow prevention device subject to approval of the City. There is a \$300 deposit on the fire hydrant and all borrowed equipment. Water shall be furnished from hydrants at no cost to the Contractor. However, the Contractor shall restore any damage to the hydrant caused by the Contractor’s use, including settlement.”

Fire hydrants shall be accessible at all times to the Fire Department. No material or other obstructions shall be placed closer to a fire hydrant than permitted by municipal ordinances, rules or regulations, or within five (5) feet of a fire hydrant, in the absence of such ordinances, rules or regulations.”

Add the following paragraphs to Article 107.20:

“All existing roadway ditches or swales disturbed during construction operations shall be restored to their original cross-section and longitudinal grade, as approved by the Engineer. Any settlement caused by sewer or water main trenches shall be refilled and the original grades maintained by the Contractor for a period of one year from the date of final completion of the Project. Any property damage caused by trench excavation or augering operations, including settlement, shall be restored at Contractor's expense.”

Existing roadways, driveways, sidewalks, curbs, utilities, structures, landscaping, site objects, and other site improvements not indicated to be removed and/or replaced as part of the Project which are damaged by Contractor's operations shall be repaired to a condition equal or better than that prior to the start of construction; or, if deemed un-repairable by the Owner, removed and replaced by the Contractor at no cost to the Owner in accordance with the terms of the Project specifications, Drawings, applicable codes, ordinances, and technical standards.

The correction of defects in the Work performed by the Contractor shall be done at no additional cost to the Owner and in accordance with the terms of the Project specifications, Drawings, applicable codes, ordinances, and technical standards.

Add the following paragraph to Article 107.25:

“Prior to commencement of construction operations, the Contractor shall prepare a written inventory of existing traffic control and other signage along the routes of construction. This inventory shall list the location, wording, and general condition of signage. This inventory shall be submitted to the Engineer upon completion and before any signage is removed for construction activities. The Contractor shall remove all existing traffic control signs, store these signs in a manner, which prevents damage, and reinstall them as soon as possible following installation of new sewers as coordinated by the Engineer.”

Add the following paragraphs to Article 107.30:

“The Contractor assumes full responsibility for the safekeeping of all materials and equipment and for all unfinished work until final acceptance by the Owner, and if any of it is damaged or destroyed from any cause, the Contractor shall replace it at the Contractor’s own expense.

The Contractor shall indemnify and save harmless the Owner against any liens filed for nonpayment

of his bills in connection with the Contract work. The Contractor shall furnish the Owner satisfactory evidence that all persons who have done work or furnished materials, equipment or service of any type under this Contract have been fully paid prior to the acceptance of the Work by the Owner.

The Contractor shall erect and maintain such barriers and lights and/or watchmen as will protect and warn pedestrians and vehicles, and prevent access of unauthorized persons to the site so as to prevent accidents as a consequence of his work.

The Contractor shall indemnify and hold harmless the Owner, the Owner's employees, the Engineer, and the Engineer's employees from any and all liability, loss, cost, damages and claims, and expense (including reasonable attorney's fees and court costs) resulting from, arising out of, or incurred by reason of any claims, actions, or suits based upon or alleging bodily injury, including death, or property damage arising out of, or resulting from the Contractor's operations under this Contract, whether such operations be by himself or by any subcontractor or by anyone directly or indirectly employed by either of them. The Contractor shall obtain insurance for this purpose, which shall insure the interests of the Owner and Engineer as the same may appear, and shall file with the Owner and Engineer certificates of such insurance.

The Contractor shall protect the Owner's property and adjacent property from injury or loss resulting from his operations. Objects sustaining such damage shall be replaced to the satisfaction of the Owner and Engineer; the cost of such repairs shall be borne by the Contractor.

The Contractor shall be completely responsible for protecting his/her work from vandalism. Any vandalized concrete shall be repaired and/or replaced as directed by the Engineer and at the Contractor's expense."

Add Article 107.46, which shall read as follows:

**"107.46 Guarantees and Warranties.** All guarantees and warranties required shall be furnished by the Contractor and shall be delivered to the Owner before the final voucher on the Contract is issued."

### **PROSECUTION AND PROGRESS**

Add the following to Article 108.02:

"Prior to commencing construction operations, the Project Superintendent shall meet with the Owner and Engineer and submit his Progress Schedule.

The construction schedule shall reflect that no work will be performed on Saturdays, Sundays, Holidays, and the days listed below as modified in Art. 108.03 Section 108.

The Contractor shall submit to the Engineer monthly updates of the schedules required per these specifications. Schedule updates shall reflect the progress to date by providing actual start dates for activities started, actual finish dates for completed activities, and identifying out of sequence work, schedule logic changes, and any circumstances or events impacting the current schedule. The updates shall also contain the Contractor's best estimate of the remaining duration for activities not complete as of the date of the update. All graphic presentations and reports shall be submitted with the monthly partial payment requests.

The Contractor shall prepare and submit daily reports containing, among other items, the following information:

1. A description of work activities performed.
2. A description of obstructions encountered.
3. Temperature and weather conditions.

The reports shall be submitted on a daily basis, by the end of the next business day.

Information provided on the daily report shall not constitute notice of delay or any other notice required by the Contract Documents.

Failure to provide the updated schedule every month may be cause to withhold any partial payment due to the Contractor during the course of the Contract until the deficiency has been remedied.”

Delete the second paragraph of Article 108.03 and replace it with the following:

“The Contractor shall notify the Owner and Engineer at least 72 hours before beginning work. The Contractor shall give a minimum of 24 hour notice, not including Saturdays, Sundays or legal holidays, prior to suspension of construction activities for any non-weather related reason. Suspension of work for non-weather related reasons must be pre-approved by the Engineer. The Contractor must be in advance of the Controlling Item as indicated by his submitted Construction Schedule as a condition of the Engineer’s granting of authorization to suspend work. In addition, the suspension shall not affect the completion date of the Project. The Contractor shall notify the Engineer at least 24 hours, not including Saturdays, Sundays or legal holidays, prior to the resumption of work. The site must be left in a clean and neat manner, acceptable to the Engineer, prior to the authorization of the suspension.

The Contractor shall perform the Work in accordance with the following scheduling requirements:

- a. The Contractor will be required to discuss their operations and get verbal and / or written permission at least twenty-four (24) hours in advance in order to work on the following dates:

Friday, April 10, 2020	Good Friday
Thursday, April 16, 2020	Last Day of Passover
Friday, July 3, 2020	Independence Day Observance
Saturday, September 19, 2020	Rosh Hashanah
Monday, September 28, 2020	Yom Kippur

**Normal Work Hours.** Normal work hours shall be Monday through Friday (excluding legal holidays) between 7:00 am and 5:00 p.m. local time during the calendar dates specified in Article 108.03. Except for work required to maintain warning lights, barricades and other safety/health-related systems no work shall be performed on Saturdays, Sundays, legal holidays, or between 5:00 pm and 7:00 am on other days without specific permission of the Owner.

No work, except maintenance of warning lights, barricades and other safety/health-related systems, may be performed unless the Engineer is available to observe/inspect construction activities. Owner will provide the services of the Engineer as needed for construction observation/inspection between the hours of 7:00 am and 5:00 p.m., Monday through Friday, except legal holidays, in accordance

with the calendar dates specified in Article 108.03. Prohibited work activities outside of normal work hours include but are not limited to the warming up of any piece of equipment or turning on engines.

If at any time during the project the Contractor elects to work on a Saturday, they must obtain written permission from the Capital Planning and Engineering Bureau, Senior Project Manager and/or City Engineer/Bureau Chief, Public Works Agency. Contractor shall request this at least twenty-four hours in advance of Saturday work. The contractor is required to estimate any Saturday work and include that in the bid amount.

Delete Article 108.05 and replace it with the following:

**“108.05 Project Completion Times:**

The Project Completion Time and Substantial Completion Times shall be as specified in the Contract Documents. Liquidated damages, as indicated in Article 108.09 shall apply for failure to achieve any of the listed Partial Completion Dates, Substantial Completion Dates, Project Completion Dates, and other specific Work task completion requirements.

**MEASUREMENT AND PAYMENT**

Add the following paragraphs to Article 109.02:

“All the requirements of the Supplemental Standard Specifications pertaining to Sections 100 to 109 of the Standard Specifications are considered included in the cost of the Work, and no separate or additional payment will be made, except as otherwise indicated, for complying with said requirements.

The cost of removal of any temporary surfaces, trench backfill or other temporary materials above the subgrade level in areas where final surface restoration is to be performed shall be included in the cost of the Contract and no additional separate payment will be made except as indicated on the Plans.

Existing facilities or property damaged by construction activities, including settlement, whether through result of Contractor's negligence or as a normal result of the means and methods employed by the Contractor, shall be restored to original condition. Restoration of damaged areas will be considered incidental to the Work and the cost shall be included as part of the unit or lump sum price item to which the restoration pertains.

**SUBMITTALS**

This section includes general requirements and procedures related to the Contractor's responsibilities for preparing and transmitting submittals to the Engineer to demonstrate that the performance of the Work will be in accordance with the Contract requirements. Submittals include schedules, Contractor's Drawings, calculations, samples, manuals, methods of construction, and record drawings. Other requirements for submittals are specified under applicable sections of the Standard Specifications.

**SUBMITTAL REQUIREMENTS**

Not later than three days after the pre-construction conference, submit in writing a list of submittals and a list of materials and equipment that will be purchased giving name, address and telephone number of supplier, manufacturer or processor. No material shall be incorporated into the Work

until approval of the source has been given by Engineer. Delivery of materials to the Contract site prior to approval is made at the Contractor's risk and subject to immediate removal at no cost to the Owner, when it is determined that the source is not acceptable.

## CONTRACTOR'S DRAWINGS AND OTHER SUBMITTALS

Contractor's drawings shall be neat in appearance, legible and explicit to enable proper review relative to Contract compliance. They shall be complete and detailed to show fabrication, assembly and installation details, catalog data, pamphlets, descriptive literature, and performance and test data. They shall be accompanied by calculations or other sufficient information to provide a comprehensive description of the structure, machine or system provided and its intended manner of use.

### Contractor's Responsibility

Each Contractor's drawing submitted by the Contractor shall have affixed to it the following Certification Statement, signed by the Contractor:

**"Certification Statement:** By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable approved drawings and all Contract requirements."

The review and approval of Contractor's drawings by the Engineer shall not relieve the Contractor from his responsibility with regard to the fulfillment of the terms of the Contract. All risks of error and omission are assumed by the Contractor, and the Engineer will have no responsibility therefore.

No portion of the Work requiring a Contractor's drawing shall be started nor shall any materials be fabricated, delivered to the site, or installed prior to the approval or qualified approval of such item. Fabrication performed, materials purchased or on-site construction accomplished which does not conform to approved Contractor's drawings and data shall be at the Contractor's risk. The Owner will not be liable for any expense or delay due to corrections or remedies required to accomplish conformity.

Contract Work, materials, fabrication, and installation shall conform with approved Contractor's drawings.

### Identification

Data - All submittals for approval shall have the following identification data, as applicable, contained thereon or permanently adhered thereto.

1. Owner Contract Number.
2. Project name and location.
3. Submittal Numbers. Re-submittals shall bear original submittal number and be lettered.
4. Product identification.
5. Drawing title, drawing number, revision number, and date of drawing and revision.

6. Applicable Contract drawing numbers and specification section and paragraph numbers.
7. Subcontractor's, vendor's, and/or manufacturer's name, address and phone number.
8. Contractor's certification statement.

Catalog Data - Each submittal of catalog data shall have the identification required as hereinbefore stated.

1. Catalogs or brochures submitted in packages of multiple items for approval need the identification only on the exterior. In such instances the identification shall include page and catalog item numbers for items submitted for approval. If one or more of the items in such a submittal are not approved, re-submittal of only the unapproved items is required.
2. Catalog cuts containing various products, sizes and materials shall be highlighted to show particular items being submitted.

Space - Vacant space of approximately 3-1/2-inches high by 4-inches wide shall be provided adjacent to the identification data to receive the Engineer's status stamp.

#### Shop Drawings

Shop drawings shall show types, sizes, accessories, weights, layouts including plans, elevations and sectional views, component, assembly and installation details, and all other information required to illustrate how applicable portions of the Contract requirements will be fabricated and/or installed. Include manufacturer's certified performance curves, catalog cuts, pamphlets and descriptive literature, as required.

#### Working Drawings

Submit working drawings as required for changes, substitutions, contractor design items, and designed methods of construction. Requirements for working drawings will be listed in appropriate Specification Sections and/or in Special Provisions. Drawings shall be accompanied by calculations or other information to completely explain the structure, and describe its intended use. Working drawings and calculations as submitted shall be sealed, dated and signed by a Professional Engineer, and/or Structural Engineer as appropriate, registered in the State of Illinois.

Review and approval of such drawings by the Engineer shall not relieve the Contractor from his responsibility with regard to the fulfillment of the terms of the Contract. All risks of error are assumed by the Contractor and the Engineer shall have no responsibility therefore.

#### Catalog Data

Submittals - 6 copies of catalog data are required for the original submittal and each subsequent re-submittal that may become necessary.

Manufacturer's equipment data shall be certified and shall include materials type, performance characteristics, voltage, phase, capacity, and similar data. Provide wiring diagrams when applicable. Indicate catalog, model and serial numbers representing specified equipment. Provide complete component information to verify all specified required items.



Data Identification - Each submittal shall have all pertinent data contained therein that are applicable to the item submitted for approval, adequately and prominently designated.

Review and approval of Contractor's drawings by the Engineer shall not relieve the Contractor in any way from his responsibility with regard to the fulfillment of the terms of the Contract. All risks of error are assumed by the Contractor and the Engineer shall have no responsibility therefore.

#### RECORD DRAWINGS

The Contractor shall keep one record copy of all Contract Documents, reference documents, and all submittals at the site in good order and annotated to show all revisions made during the construction process. Such annotations shall be kept updated on a single set of Contract Drawings and will be inspected monthly. Failure to maintain current record drawings will be cause to delay progress payments. Record drawings shall be available to the Engineer at all times during the life of the Contract.

All drawings and Contractor's submittals shall be made a part of the record drawings and shall include the following:

Contract Drawings - Contractor shall annotate or redraft, as required, to show all revisions, substitutions, variations, omissions and discrepancies made or discovered during construction concerning location and depth of utilities, piping, duct banks, conduits, manholes, pumps, valves, vaults and other equipment. Revisions shall be made and shown on all drawing views with actual dimensions established to permanent points.

Contractor's Drawings - Same as above. Include, for example, piping layouts; and duct layouts. Sections and details shall be added as required, for clarity. Prior to preliminary inspection, furnish a reproducible of the record drawings. At the completion of the Contract and before final payment is made, furnish the Engineer one set of reproducible of the finally approved record drawings reflecting all revisions herein described.

The Contractor shall keep a complete to-date record of the actual construction of all work called for under the Plans and Specifications of this contract and as ordered by the Engineer.

Upon completion of this contract, the Contractor shall furnish to the Engineer record contract plan drawings where changes from the original plans have occurred.

The Engineer will make available to the Contractor one set of full size prints of the original contract drawings on which the Contractor shall make the necessary changes to indicate the major changes. The changes shall be made with opaque Higgins carmine red ink, or approved equal, using standard drafting procedures.

Record drawings on Mylar will be prepared by the Engineer based on the changes indicated by the Contractor. All record drawings on Mylar for this contract shall be signed by the Contractor certifying to its major corrections.

**PAYMENT**

No separate payment will be made for the work in this section; all the costs of such work shall be included in the cost of items of work to which they pertain.

**ENVIRONMENTAL CONTROL**

The Contractor shall be responsible for furnishing all necessary items for fulfilling the Work described herein for environmental protection including prevention and control of erosion and sedimentation that results directly or indirectly from the Project.

**PREVENTION OF WATER POLLUTION**

The Contractor shall take all such precautions in the conduct of his/her operations as may be necessary to avoid contaminating the water in adjacent watercourses or water storage areas including wells whether natural or man-made.

All earthwork, moving of equipment, water control of excavations, and other operations likely to create silting, shall be conducted so as to minimize pollution of watercourses or water storage areas.

Water used during the Contract Work, which has become contaminated with oil, bitumens, harmful or objectionable chemicals, sewage or other pollutants, shall be disposed of so as to avoid affecting all nearby waters and lands. Under no circumstances shall the Contractor discharge pollutants into any watercourse or water storage area. Do not allow water used in aggregate processing, concrete curing, foundation and concrete lift cleanup or any other waste to directly enter a stream untreated. When water from adjacent natural sources is used in the Contract Work, intake methods shall be such as to avoid contaminating the source of supply or becoming a source of erosion or sedimentation.

**NOISE AND AIR POLLUTION CONTROL**

Conduct operations so as not to violate any applicable ordinances, regulations, rules and laws in effect in the area at the date of bid opening pertaining to noise and air pollution and to conform to all provisions in effect at the date of bid opening as set forth in the Rules and Regulations Governing the Control of Air Pollution and noise pollution in the State of Illinois.

**PLANT PEST CONTROL**

All soil moving or handling equipment that has operated in or will operate in regulated areas shall be subject to plant quarantine regulations. In general, these regulations require the thorough cleaning of soil from equipment before such equipment is moved from regulated areas to uninfected areas. Complete information may be obtained from the regional office of the Plant Pest Control Division of the United States Department of Agriculture.

**PRESERVATION OF NATURAL RESOURCES**

All construction operations, contract work, clean up and the condition of the adjacent terrain upon completion of the Work shall fully comply with all applicable regulations and laws concerning the preservation of natural resources.

**DUST CONTROL**

Throughout the entire construction period, maintain dust control by use of water sprinklers or chemical dust control binder as may be approved by the Engineer.

## PAYMENT

No separate payment will be made for the work in this Section; all the costs of such work shall be included in the cost of items of work to which they pertain.

## TREE REMOVAL AND PROTECTION, CARE AND REPAIR OF EXISTING PLANT MATERIALS

Add the following paragraphs to Article 201.01:

“Trees and shrubs which may be removed for performance of the Work are so designated on the Drawings. It is not anticipated that any other trees or shrubs will need to be removed for performance of the Work. Should the Contractor desire to remove trees or shrubs, the Contractor shall notify the Owner for approval prior to removing any trees or shrubs. Owner will not grant permission for removal of trees or shrubs, unless the Contractor can demonstrate that there is no other practicable way to complete the Work, including augering or hand-excavation.

No trees over 3 inches diameter at breast height shall be removed from April 1 to September 30.

Owner recognizes that some tree branches will need to be pruned to provide clearance for construction equipment. However, the Contractor shall secure the express permission of the Engineer to trim specific overhanging branches of trees. The maximum permitted height of trimming shall be 14 feet. All tree trimming, pruning, and repair of wound surfaces shall be performed by a licensed arborist approved by the Owner. The Owner will provide appropriate staff to observe tree trimming operations. The Contractor shall provide at least 72-hour notice to the Owner of trimming operations. No trimming shall be done unless Owner's staff is available to observe trimming. Trimming shall be performed to the satisfaction of Owner's staff. The Contractor shall provide proper tree guards to protect trees from damage due to construction equipment and operations.

Trees and shrubs damaged due to construction operations or removed without approval shall be replaced, at Contractor's expense, with trees or shrubs of like species and size, to a maximum trunk size of 6-inches diameter as directed by the Owner. If trees larger than 6-inches diameter are irreparably damaged or destroyed, the Contractor shall replace these trees with trees of like species 6-inches in diameter. Tree trimming, pruning, repair of wound surfaces, removal of trees and shrubs requested by Contractor, and replacement of trees and shrubs irreparably damaged shall be included in the cost of the items of work to which they pertain.”

### Parkway Tree Protection

Prospective contractors are advised that it is the express intent of the City of Evanston to minimize trimming of trees in the work corridors and to vigorously protect the quality of the urban forest. The equipment and methods used to perform any and all portions of the work must be the size and nature that results in the least disruption to the existing environment. The City of Evanston reserves the right to limit the size of the equipment used on the project.

The Contractor shall at all times demonstrate to the satisfaction of the City of Evanston that suitable precautions and due diligence are being observed to protect the natural and improved features of the area. Special and continuing attention will be paid to the maintenance of tree protection fencing and the appropriate observance of tree protection areas as delineated by the fencing.

To insure compliance with the City of Evanston's intent to minimize area disturbances, the following

procedures and actions will be followed: When the Engineer determines that a deficiency exists, the Contractor shall be notified. If the contractor fails to rectify the deficiency immediately, the Engineer will impose a daily monetary deduction for each 24-hour period (or portion thereof) the deficiency exists. This time period will begin with the time of notification to the Contractor and end with the Engineer's acceptance of the corrections. The cost of the daily deduction will be \$250 per occurrence per calendar day. In addition, the Contractor will be liable and responsible for any and all corrective and remedial actions required to restore the area or item to comparable pre-project conditions as well as any additional fines and fees as stated in the tree protection requirements in these specifications.

**Care of Existing Plant Material.** If construction is to occur within the root zone of existing plant material, root pruning and special plant care will be required, as hereinafter specified. All pruning shall be performed by a professional arborist (someone whose principal occupation is the care and maintenance of trees).

The Contractor shall be responsible for taking measures to minimize damage to tree limbs, tree trunks, and tree roots at each work site. All such measures shall be included in the contract price for other works except that payment will be made for Temporary Fence and Earth Saw Cut of Tree Roots as separate pay items.

A. Earth Saw Cut of Tree Roots (Tree Root Pruning):

1. Whenever the proposed excavation falls within the drip-line of a tree, the contractor shall:
  - a. Root prune 6-inches behind and parallel to the proposed edge of trench a neat, clean vertical cut to a minimum depth directed by the City Arborist through all the affected tree roots.
  - b. Root prune to a maximum width of 4 inches using a reciprocating saw blade for cutting tree roots or similar machine matching the following criteria. The root pruner wheel shall be 60" diameter (188" circumference) carrying 28 pair (56 total) stump cutter teeth with tooth spacing at 6.7" on center. The cutting depth shall be 24" and shall utilize a 65hp tractor. Trenching machines will not be permitted.
  - c. Exercise care not to cut any existing utilities.
  - d. If during construction it becomes evident that additional tree roots will require root pruning, the City Arborist and the Contractor shall have the root pruning sub-contractor return to the site to properly root prune the tree at the location directed by the City Arborist. The contractor will be paid for the additional root pruning as described below; however, no additional compensation will be made for remobilization to the construction site.
  - e. For locations where root pruning is performed for the purpose of curb and gutter removal and replacement, the contractor shall root prune 6-inches behind the curbing so as to neatly cut the tree roots.
  - f. Depth of cut shall be 12 inches for curb removal and replacement and 24 inches for structural work. Any roots encountered at a greater depth shall be neatly saw-cut at no additional cost.

- g. The Engineer or City Arborist will mark locations where earth saw cutting of tree roots is required in the field.
2. All root pruning cuts shall be immediately backfilled with material side cast from the earth-sawing procedure, so that the ground surface is even and no tripping potential exists.
3. All root pruning work is to be performed through the services of a certified arborist to be approved by the City Arborist.

TREE ROOT PRUNING shall be used to protect all trees within the public right-of-way of the project limits or as directed by the Engineer. This work will be paid for at the Contract unit price per EACH for TREE ROOT PRUNING measured in place.

The Contract unit price per EACH for TREE ROOT PRUNING shall be payment in full for all materials, labor and equipment required for: tree root pruning as shown on plan details; and all related work which is not included under other Payment Items.

B. Temporary Fence:

1. The Contractor shall erect a temporary fence around all trees within the construction area to establish a "tree protection zone", as established by City Arborist, before any work begins or any material is delivered to the jobsite. No work is to be performed (other than root pruning), materials stored, or vehicles driven or parked within the "tree protection zone" at any time during the course of construction.
2. The exact location and establishment of the "tree protection zone" fence shall be approved by the City Arborist prior to setting the fence. The fence shall be 48 inches high, plastic poly-type or any other type of highly visible barrier in an open-weave type pattern with large openings. The type, color and pattern of the fence shall be approved by the Engineer prior to erection. This fence shall be properly maintained in an upright manner and shall remain up until final restoration, unless the Engineer directs removal otherwise. Tree fence shall be supported using T-Post style fence posts with a maximum of 8' spacing. T-posts must be at least six feet in length, two feet of which must be set in the ground. The fence shall be attached to posts and secured with a minimum of three nylon locking ties per post. Utilizing re-bar as a fence post will not be permitted.
3. The fence shall be installed 18" behind and parallel to the curb and between the curb and sidewalk. Fence shall be erected on a minimum of three sides with the fourth sidewalk side being optional. Fence shall be installed at the drip-line of the tree or as listed in the following guidelines:
  - a. Establish the diameter of the tree at a point four and a half feet above the ground, (referred to as diameter breast height or DBH)
    - i. Trees with diameters 10 inches and under require root zone protection a minimum of five feet from the center of the tree.
    - ii. Trees 10 to 19 inches in diameter shall have a minimum root zone protection of 10 feet from the center of the tree.
    - iii. Trees greater than 19 inches in diameter shall have a minimum root zone protection of 15 feet from the center of the tree.

4. Parking or maneuvering of machinery, stockpiling of materials or any other use will not be allowed upon unpaved areas within 10 feet of the root protection zone of trees or plants designated to be protected.
5. Construction area is defined as all areas within 10 feet each side of roadway improvement location.
6. All work within the "tree protection zone" shall have the Engineer's prior approval. All slopes and other areas not re-graded should be avoided so that unnecessary damage is not done to the existing turf, tree root system or ground cover.
7. The grade within the "tree protection zone" shall not be changed unless approved by the Engineer prior to making said changes or performing the work.

TEMPORARY FENCE shall be used to protect all trees within the public right-of-way of the project limits or as directed by the Engineer. This work will be paid for at the Contract unit price per FOOT for TEMPORARY FENCE measured in place.

The Contract unit price per FOOT for TEMPORARY FENCE shall be payment in full for all materials, labor and equipment required for: providing snow fence as shown on plan details; and all related work which is not included under other Payment Items.

When improvements are required within the "tree protection zone", tree trunk protection will be required.

C. Tree Trunk Protection:

The Contractor shall provide 2 in. by 8 in. by 8 ft. boards banded continuously around each trunk to prevent scarring of trees shown on the plans or designated by the Engineer. For multi-stem trees, saplings, and shrubs to be protected within the area of construction, temporary fencing may be used for trunk protection

TREE PROTECTION shall be used to protect all trees within the public right-of-way of the project limits or as directed by the Engineer. This work will be paid for at the Contract unit price per EACH for TREE PROTECTION measured in place.

The Contract unit price per EACH for TREE PROTECTION shall be payment in full for all materials, labor and equipment required for: installation of trunk boards in accordance with Supplemental Standard Specifications; and all related work which is not included under other Payment Items.

D. Tree Pruning:

Tree pruning shall consist of pruning branches for aesthetic and structural enhancement or as directed by the Engineer. All pruning shall be done according to the current ANSI A300 (part 1) pruning standard. Trees selected for pruning will be cleaned of dead, diseased, or broken branches, thinned appropriately to reduce density of branches, raised to provide vertical clearance for pedestrian and vehicular traffic, and if warranted by species tolerance and specimen needs limbs will be reduced to promote a central leader and good structure. Pruning to provide clearance over

the street will be allowed up to 14 feet above the pavement. If additional clearance is needed a request in writing shall be submitted to the City Arborist. All branch pruning to American Elms and Oak trees shall be done between October 15 and April 15, when the trees are dormant.

Under pruning to provide clearance over the street will be allowed up to 14 feet above the pavement. If additional clearance is needed a request in writing shall be submitted to the City Arborist.

TREE PRUNING will be paid for at the contract unit price per EACH for TREE PRUNING, which price shall include under pruning branches to provide clearance over the street, for aesthetic and structural enhancement, of existing trees.

### **SUPPLEMENTAL WATERING**

This work will include watering sod, trees, shrubs, vines, and perennials at the rates specified and as directed by the Engineer.

Schedule: Watering will only begin after the successful completion of all period of establishment requirements. Water trees, shrubs, and vines every 7 days throughout the growing season (April 1 to November 30). Water perennials, plugs, and sod a minimum of twice a week. The Engineer may direct the Contractor to adjust the watering rate and frequency depending upon weather conditions.

Watering must be completed in a timely manner. When the Engineer directs the Contractor to do supplemental watering, the Contractor must begin the watering operation within 24 hours of notice. **The Contractor shall give an approximate time window of when they will begin at the work location to the Engineer. The Engineer shall be present during the watering operation.** A minimum of 10 units of water per day must be applied until the work is complete.

Should the Contractor fail to complete the work on a timely basis or within such extended times as may have been allowed by the Department, the Contractor shall be liable to the Department liquidated damages as outlined in the **“Failure to Complete Plant Care and Establishment Work on Time” special provision.**

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

A calendar day is every day shown on the calendar and starts at 12:00 midnight and ends at the following 12:00 midnight, twenty-four hours later.

Source of Water: The Contractor shall notify the Engineer of the source of water used and provide written certification that the water does not contain chemicals harmful to plant growth.

Rate of Application: The normal rates of application for watering are as follows. The Engineer will adjust these rates as needed depending upon weather conditions.

- 35 gallons per tree
- 25 gallons per large shrub
- 15 gallons per small shrub
- 4 gallons per vine
- 3 gallons per perennial plant (Gallon)
- 2 gallons per perennial plant (Quart)
- 2 gallons per perennial plant (Plug)
- 27 gallons per square yard for Sodded Areas

Method of Application: A spray nozzle that does not damage small plants must be used when watering all vegetation. Water shall be applied at the base of the plant to keep as much water as possible off plant leaves. An open hose may be used to water trees, shrubs, and seedlings if mulch and soil are not displaced by watering. The water shall be applied to individual plants in such a manner that the plant hole shall be saturated without allowing the water to overflow beyond the earthen saucer. Watering of plants in beds shall be applied in such a manner that all plant holes are uniformly saturated without allowing the water flow beyond the periphery of the bed. Water shall slowly infiltrate into soil and completely soak the root zone. The Contractor must supply metering equipment as needed to assure the specified application rate of water.

Method of Measurement: Supplemental watering will be measured in units of 1000 gallons of water applied as directed.

Basis of Payment: This work will be paid for at the contract unit price per unit of SUPPLEMENTAL WATERING, measured as specified. Payment will include the cost of all water, equipment and labor needed to complete the work specified herein and to the satisfaction of the Engineer.

## **EARTH EXCAVATION**

Work under this item shall be performed in accordance with the applicable portions of Sections 202, of the "Standard Specifications", except as herein modified.

All excess material (Broken Concrete, Culvert Pipe, Waste Roadway Excavation, Surplus Material from Sewer Trenches, etc.) shall be legally disposed of outside the limits of the right-of-way. It shall be the contractor's responsibility to select dump sites and obtain permission and all necessary permits to use dump sites. Payment for this work shall be included in the Contract unit price per cubic yard for EARTH EXCAVATION.

## **TRENCH BACKFILL**

Work under this item shall be performed in accordance with the applicable portions of Sections 208, of the "Standard Specifications", except as herein modified.

The trench depth is the depth from the subgrade to the top of service and any required bedding. Any trench backfill required in excess of the quantity established above, including bedding



material, shall be included in the cost of the TRENCH BACKFILL. Payment for this work shall be included in the Contract unit price per cubic yard for TRENCH BACKFILL.

### **TOPSOIL FURNISH AND PLACE, VARIABLE DEPTH**

Add the following paragraph to Article 211.04:

Topsoil shall be pulverized.

Revise Article 211.07 of the Standard Specifications to read:

Topsoil furnish and place shall be that material obtained from outside the right-of-way and will be measured for payment by truck load material delivery ticket displaying volume in cubic yards.

Revise Article 211.08 of the Standard Specifications to read:

This work will be paid for at the contract unit price per square yard for TOPSOIL FURNISH AND PLACE, VARIABLE DEPTH.

### **PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT**

Add the following paragraphs to Article 423.02:

Materials: - Materials for concrete shall be in accordance with Section 420 as applicable. Class SI concrete shall be used. Forms shall be a minimum of 2" x 8" lumber, held in place by stakes or braces with the top edges true to line and grade. The aggregate base course shall be four (4") inches thick of crushed limestone gradation CA-6 constructed in accordance with Section 351 of the Standard Specifications. The driveway pavement shall be six (6") inches or eight (8") inches thick. Three-quarter (3/4") inch thick expansion joint material shall be placed between the curb and the full width of the proposed driveway. Contraction joints shall be provided.

Curing and Protection: Curing shall be in accordance with Article 1022.01. Curing compound shall be Type III. Protect all surfaces from sun. During hot weather, keep temperature of concrete below 90 degrees Fahrenheit. During cold weather, keep temperature of concrete between 50 degrees F and 70 degrees F for 3 to 5 days. Protect from frost and rapid drying for 6 days. The Contractor shall be solely responsible for protecting his work from vandalism. All vandalized concrete work shall be removed and replaced at the Contractor's expense."

Delete Article 423.11 and replace it with the following paragraphs:

This work will be paid for at the Contract unit price per SQUARE YARD for PORTLAND CEMENT CONCRETE (PCC) DRIVEWAY PAVEMENT, of the thickness specified, measured in place. Payment shall be made for the quantity of pavement actually installed within the pay limits shown on the Drawings or as directed by Engineer.

The Contract unit price for PCC DRIVEWAY PAVEMENT shall be payment in full for all materials, labor, and equipment required for: final grading of aggregate base course; reinforcement, if required; pavement placement, curing, and protective coating; and all related work required to complete the installation which is not included under other Payment Items.

PCC DRIVEWAY PAVEMENT installation outside the limits shown on the Drawings due to damage caused by Contractor's operations or for Contractor's purposes shall be considered incidental to this work and no separate payment shall be made.

## **PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH**

Add the following sentences to Article 424.01:

“The Work shall also include adjustments to surface elements such as buffalo boxes, valve covers, manhole covers, vault covers, etc. to final grades.”

Add the following sentences to Article 424.02:

“Curing shall be in accordance with Article 1022.01. Curing compound shall be Type III. Protect all surfaces from sun. During hot weather, keep temperature of concrete below 90 degrees Fahrenheit. During cold weather, keep temperature of concrete between 50 degrees F and 70 degrees F for 3 to 5 days. Protect from frost and rapid drying for 6 days.”

Add the following sentences to Article 424.04:

“The Aggregate Base Course required for necessary grading will not be paid for separately and constructed in accordance with section 351 of the Standard Specifications.”

Add the following paragraphs to Article 424.06:

“Concrete placement will be permitted if air temperature is 40 degrees Fahrenheit or higher. Concrete pours shall be ended at expansion or control joints. Partial slabs shall not be allowed. The surface shall be divided by control joints extending to the depth of the slab. Control joints shall be tooled first, saw-cut to proper depth and shall be spaced at 5-foot or other uniform intervals as directed by the Engineer. All edges and intermediate joints of sidewalks shall be shaped with an edging tool having a ½ inch radius. Surfaces of sidewalks shall have a light broom finish, except handicapped ramps at intersections, which shall be finished as shown on the Drawings.

All sidewalk removed shall be formed within 3 working days of removal. New sidewalk shall be poured within 1 working day of being formed. The forms shall be removed within 1 working day after the concrete pour and the restoration adjacent to new sidewalk shall be done with 24 hours after removal of the forms. All low areas shall be filled in to match the surrounding grades within 72 hours of the sidewalk being poured.

The Contractor shall be solely responsible for protecting his work from vandalism. All vandalized concrete work shall be removed and replaced at the Contractor's expense”

Add the following paragraphs to Article 424.09:

“The product used for detectable warnings shall be Prefabricated Detectable Warning Panels (Red Brick) manufactured by one of the following:

- > Access Products, Inc. (888-679-4022)/ Supplier (630-689-7574)
- > Armorcast Products Company (818-982-3600)
- > Detectable Warning Systems, Inc. (866-999-7452)
- > TufTile, Inc. [www.TUFTILE.com](http://www.TUFTILE.com) (888-960-8897).”

## **REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES**

Description. This work shall consist of the removal and disposal of regulated substances according to Section 669 of the Standard Specifications as revised below.

Contract Specific Sites. The excavated soil and groundwater within the areas listed below shall be managed as either “uncontaminated soil”, hazardous waste, special waste or non-special waste. For stationing, the lateral distance is measured from centerline and the farthest distance is the offset distance or construction limit, whichever is less.

Soil Disposal Analysis. When the waste material requires sampling for landfill disposal acceptance, the Contractor shall secure a written list of the specific analytical parameters and analytical methods required by the landfill. The Contractor shall collect and analyze the required numbers of samples for the parameters required by the landfill using the appropriate analytical procedures. A copy of the required parameters and analytical methods (from landfill email or on landfill letterhead) shall be provided as Attachment 4A of the BDE 2733 (Regulated Substances Final Construction Report). The price shall include all sampling materials and effort necessary for collection and management of the samples, including transportation of samples from the job site to the laboratory. The Contractor shall be responsible for determining the specific disposal facilities to be utilized; and collect and analyze any samples required for disposal facility acceptance using a NELAP certified analytical laboratory registered with the State of Illinois.

- Station 11+00 to Station 12+35 (Main Street at the Maple Avenue intersection to the east), 0 to 30 feet LT, due to non CCDD soils.
- Station 18+60 to Station 19+60 (Main Street at the Sherman Avenue intersection to the west), 0 to 30 feet LT, due to pH exceedance.
- Station 27+15 to Station 28+85 (Main Street at the Chicago Avenue intersection to the east), 0 to 30 feet RT, due to pH exceedance.
- Station 28+85 to Station 30+05 (Main Street between Chicago Avenue and Hinman Avenue), 0 to 30 feet RT, due to non CCDD soils.
- Station 29+30 to Station 30+05 (Main Street between Chicago Avenue and Hinman Avenue), 0 to 30 feet LT, due to pH exceedance.
- Station 30+05 to Station 31+65 (Main Street and Hinman Avenue intersection to the west), 0 to 30 feet LT, 0 to 30 RT, due to pH exceedance.

Work Zones. Three distinct OSHA HAZWOPER work zones (exclusion, decontamination, and support) shall apply to projects adjacent to or within sites with documented leaking underground storage tank (LUST) incidents, or sites under management in accordance with the requirements of the Site Remediation Program (SRP), Resource Conservation and Recovery Act (RCRA), or Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), or as deemed necessary. For this project, the work zones apply for the following ISGS PESA Sites:  
**None**

## **ELECTRIC UTILITY SERVICE CONNECTION**

### Description.

This item of work shall consist of the equipment, material and labor to coordinate with the local utility to provide the electric utility service connection. The contractor shall contact the utility to coordinate the installation of the electric utility service for the lighting controllers. Any fees requirement by the utility and installation of the service equipment to meet the electric utility requirements is included in this pay item.

Method Of Payment. The Contractor will be reimbursed to the exact amount of money as billed by the utility company for its services. Work provided by the Contractor for electric service will be paid separately as described under ELECTRIC SERVICE INSTALLATION. No extra compensation shall be paid to the Contractor for any incidental materials and labor required to fulfill the requirements as shown on the plans and specified herein.

For bidding purposes, this item shall be estimated as \$4,000.00.

Basis of Payment. This work shall be paid for at the contract lump sum price for ELECTRIC UTILITY SERVICE CONNECTION which shall be reimbursement in full for electric utility service charges.

## **MAST ARM SIGN PANELS**

Effective: May 22, 2002  
Revised: July 1, 2015  
720.01TS

Add the following to Article 720.02 of the Standard Specifications:

Sign stiffening channel systems shall be aluminum and meet the requirements of ASTM 6261-T5. Sign mounting banding, buckles and buckle straps shall be manufactured from AISI 201 stainless steel.

## **TRAFFIC SIGNAL GENERAL REQUIREMENTS**

Effective: May 22, 2002  
Revised: March 25, 2016  
800.01TS

These Traffic Signal Special Provisions and the "District One Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction." The intent of these Special Provisions is to prescribe the materials and construction methods commonly used for traffic signal installations.

- All material furnished shall be new unless otherwise noted herein.
- Traffic signal construction and maintenance work shall be performed by personnel holding current IMSA Traffic Signal Technician Level II certification. A copy of the certification shall be immediately available upon request of the Engineer.
- The work to be done under this contract consists of furnishing, installing and maintaining all traffic signal work and items as specified in the Plans and as specified herein in a manner acceptable and approved by the Engineer.

### Definitions of Terms.

Add the following to Section 101 of the Standard Specifications:

101.56 Vendor. Company that sells a particular type of product directly to the contractor or the Equipment Supplier.

101.57 Equipment supplier. Company that supplies, represents and provides technical support for IDOT District One approved traffic signal controllers and other related equipment. The Equipment Supplier shall be located within IDOT District One and shall:

- Be full service with on-site facilities to assemble, test and trouble-shoot traffic signal controllers and cabinet assemblies.
- Maintain an inventory of IDOT District One approved controllers and cabinets.
- Be staffed with permanent sales and technical personnel able to provide traffic signal controller and cabinet expertise and support.
- Technical staff shall hold current IMSA Traffic Signal Technician Level III certification and shall attend traffic signal turn-ons and inspections with a minimum 14 calendar day notice.

Submittals.

Revise Article 801.05 of the Standard Specifications to read:

All material approval requests shall be submitted electronically through the District's SharePoint System unless directed otherwise by the Engineer. Electronic material submittals shall follow the District's Traffic Operations Construction Submittals guidelines. General requirements include:

1. All material approval requests shall be made prior to or no later than the date of the preconstruction meeting. A list of major traffic signal items can be found in Article 801.05. Material or equipment which is similar or identical shall be the product of the same manufacturer, unless necessary for system continuity. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.
2. Product data and shop drawings shall be assembled by pay item. Only the top sheet of each pay item submittal will be stamped by the Department with the review status, except shop drawings for mast arm pole assemblies and the like will be stamped with the review status on each sheet.
3. Original manufacturer published product data and shop drawing sheets with legible dimensions and details shall be submitted for review.
4. When hard copy submittals are necessary, four complete copies of the manufacturer's descriptive literatures and technical data for the traffic signal materials shall be submitted. For hard copy or electronic submittals, the descriptive literature and technical data shall be adequate for determining whether the materials meet the requirements of the plans and specifications. If the literature contains more than one item, the Contractor shall indicate which item or items will be furnished.
5. When hard copy submittals are necessary for structural elements, four complete copies of the shop drawings for the mast arm assemblies and poles, and the combination mast arm assemblies and poles showing, in detail, the fabrication thereof and the certified mill analyses of the materials used in the fabrication, anchor rods, and reinforcing materials shall be submitted.
6. Partial or incomplete submittals will be returned without review.
7. Certain non-standard mast arm poles and special structural elements will require additional review from IDOT's Central Office. Examples include ornamental/decorative, non-standard length mast arm pole assemblies and monotube structures. The Contractor shall account for the additional review time in his schedule.

8. The contract number or permit number, project location/limits and corresponding pay code number must be on each sheet of correspondence, catalog cuts and mast arm poles and assemblies drawings.
9. Where certifications and/or warranties are specified, the information submitted for approval shall include certifications and warranties. Certifications involving inspections, and/or tests of material shall be complete with all test data, dates, and times.
10. After the Engineer reviews the submittals for conformance with the design concept of the project, the Engineer will stamp the drawings indicating their status as 'Approved', 'Approved-As-Noted', 'Disapproved', or 'Incomplete'. Since the Engineer's review is for conformance with the design concept only, it is the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, layout drawings, or other documents by the Department's approval thereof. The Contractor must still be in full compliance with contract and specification requirements.
11. The Contractor shall secure approved materials in a timely manner to assure construction schedules are not delayed.
12. All submitted items reviewed and marked 'APPROVED AS NOTED', 'DISAPPROVED', or 'INCOMPLETE' are to be resubmitted in their entirety, unless otherwise indicated within the submittal comments, with a disposition of previous comments to verify contract compliance at no additional cost to the contract.
13. Exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.
14. Contractor shall not order major equipment such as mast arm assemblies prior to Engineer approval of the Contractor marked proposed traffic signal equipment locations to assure proper placement of contract required traffic signal displays, push buttons and other facilities. Field adjustments may require changes in proposed mast arm length and other coordination.

Marking Proposed Locations.

Revise "Marking Proposed Locations for Highway Lighting System" of Article 801.09 to read "Marking Proposed Locations for Highway Lighting System and Traffic Signals."

Add the following to Article 801.09 of the Standard Specifications:

It shall be the contractor's responsibility to verify all dimensions and conditions existing in the field prior to ordering materials and beginning construction. This shall include locating the mast arm foundations and verifying the mast arms lengths.

Inspection of Electrical Systems.

Add the following to Article 801.10 of the Standard Specifications:

- (c) All cabinets including temporary traffic signal cabinets shall be assembled by an approved equipment supplier in District One. The Department reserves the right to request any controller

and cabinet to be tested at the equipment supplier's facility prior to field installation, at no extra cost to this contract.

Maintenance and Responsibility.

Revise Article 801.11 of the Standard Specifications to read:

- a. Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of Transportation, Division of Highways, County, Private Developer, Municipality or Transit Agency in which they are located. Once the Contractor has begun any work on any portion of the project, all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," shall become the full responsibility of the Contractor. The Contractor shall supply the Engineer, Area Traffic Signal Maintenance and Operations Engineer, IDOT ComCenter and the Department's Electrical Maintenance Contractor with two 24-hour emergency contact names and telephone numbers.
- b. Automatic Traffic Enforcement equipment such as red lighting running and railroad crossing camera systems are owned and operated by others and the Contractor shall not be responsible for maintaining this equipment.
- c. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.
- d. When the project has a pay item for "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," the Contractor must notify both the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 and the Department's Electrical Maintenance Contractor, of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. The Department will attempt to full-fill the Contractor's inspection date request(s), however workload and other conditions may prevent the Department from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested inspection date(s) cannot be scheduled by the Department. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.

- e. The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.
- f. The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals and other equipment noted herein. Any inquiry, complaint or request by the Department, the Department's Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of \$1000 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$1000 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The Department may inspect any signaling device on the Department's highway system at any time without notification.
- g. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.
- h. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.
- i. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be for separately but shall be included in the contract.

Damage to Traffic Signal System.

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

Any traffic signal control equipment damaged or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and



provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices are only allowed at the bases of post and mast arms.

Temporary replacement of damaged or knockdown of a mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals will not be permitted.

Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause, shall be the responsibility of the municipality or the Automatic Traffic Enforcement company per Permit agreement.

Traffic Signal Inspection (TURN-ON).

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

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

When the road is open to traffic, except as otherwise provided in Section 850 of the Standard Specifications, the Contractor may request a turn-on and inspection of the completed traffic signal installation at each separate location. This request must be made to the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 a minimum of seven (7) working days prior to the time of the requested inspection. The Department will attempt to full-fill the Contractor's turn-on and inspection date request(s), however workload and other conditions may prevent the Department from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested turn-on and inspection date(s) cannot be scheduled by the Department. The Department will not grant a field inspection until written or electronic notification is provided from the Contractor that the equipment has been field tested and the intersection is operating according to Contract requirements. The Contractor must invite local fire department personnel to the turn-on when Emergency Vehicle Preemption (EVP) is included in the project. When the contract includes the item RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, OPTIMIZE TRAFFIC SIGNAL SYSTEM, or TEMPORARY TRAFFIC SIGNAL TIMINGS, the Contractor must notify the SCAT Consultant of the turn-on/detour implementation schedule, as well as stage changes and phase changes during construction.

The Contractor must have all traffic signal work completed and the electrical service installation connected by the utility company prior to requesting an inspection and turn-on of the traffic signal installation. The Contractor shall be responsible to provide a police officer to assist with traffic control at the time of testing.

The Contractor shall provide a representative from the control equipment vendor's office who is knowledgeable of the cabinet design and controller functions to attend the traffic signal inspection for both permanent and temporary traffic signal turn-ons.

Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

The District requires the following Final Project Documentation from the Contractor at traffic signal turn-ons in electronic format in addition to hard copies where noted. A CD/DVD shall be submitted with separate folders corresponding to each numbered title below. The CD/DVD shall be labelled with date, project location, company and contract or permit number. Record Drawings, Inventory and Material Approvals shall be submitted prior to traffic signal turn-on for review by the Department as described here-in.

Final Project Documentation:

1. Record Drawings. Signal plans of record with field revisions marked in red ink. One hard copy set of 11"x17" record drawings shall also be provided.
2. Inventory. Inventory of new and existing traffic signal equipment including cabinet types and devices within cabinets in an Excel spread sheet format. One hard copy shall also be provided.
3. Pictures. Digital pictures of a minimum 12M pixels of each intersection approach showing all traffic signal displays and equipment. Pictures shall include controller cabinet equipment in enough detail to clearly identify manufacture and model of major equipment.
4. Field Testing. Written notification from the Contractor and the equipment vendor of satisfactory field testing with corresponding material performance measurements, such as for detector loops and fiber optic systems (see Article 801.13). One hard copy of all contract required performance measurement testing shall also be provided.
5. Materials Approval. The material approval letter. A hard copy shall also be provided.
6. Manuals. Operation and service manuals of the signal controller and associated control equipment. One hard copy shall also be provided.
7. Cabinet Wiring Diagram and Cable Logs. Five (5) hard copies 11" x 17" of the cabinet wiring diagrams shall be provided along with electronic pdf and dgn files of the cabinet wiring diagram. Five hard copies of the cable logs and electronic excel files shall be provided with cable #, number of conductors and spares, connected device/signal head and intersection location.
8. Controller Programming Settings. The traffic signal controller's timings; backup timings; coordination splits, offsets, and cycles; TBC Time of Day, Week and Year Programs; Traffic Responsive Program, Detector Phase Assignment, Type and Detector Switching; and any other functions programmable from the keyboard. The controller manufacturer shall also supply a printed form, not to exceed 11" x 17" for recording that data noted above. The form shall include a location, date, manufacturer's name, controller model and software version. The form shall be approved by the Engineer and a minimum of three (3) copies must be furnished at

- each turn-on. The manufacturer must provide all programming information used within the controller at the time of turn-on.
9. Warrantees and Guarantees. All manufacturer and contractor warrantees and guarantees required by Article 801.14.
  10. GPS coordinate of traffic signal equipment as describe in the Record Drawings section herein.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal “turn on”, completeness of the required documentation and successful operation during a minimum 72 hour “burn-in” period following activation of the traffic signal. If approved, traffic signal acceptance shall be verbal at the “turn on” inspection followed by written correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Departmental acceptance is granted.

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

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

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

#### Record Drawings.

The requirements listed for Electrical Installation shall apply for Traffic Signal Installations in Article 801.16. Revise the 2<sup>nd</sup> paragraph of Article 801.16 of the Standard Specifications to read:

“When the work is complete, and seven days before the request for a final inspection, the reduced-size set of contract drawings, stamped “RECORD DRAWINGS”, shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor’s supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopy for review and approval. If the contract consists of multiple intersections, each intersection shall be saved as an individual PDF file with TS# and location name in its file name.

In addition to the record drawings, copies of the final catalog cuts which have been Approved or Approved as Noted shall be submitted in PDF format along with the record drawings. The PDF files shall clearly indicate the pay item either by filename or PDF Table of Contents referencing the respective pay item number for multi-item PDF files. Specific part or model numbers of items which have been selected shall be clearly visible.”

As part of the record drawings, the Contractor shall inventory all traffic signal equipment, new or existing, on the project and record information in an Excel spreadsheet. The inventory shall include equipment type, model numbers, software manufacturer and version and quantities.

Add the following to Article 801.16 of the Standard Specifications:

“In addition to the specified record drawings, the Contactor shall record GPS coordinates of the following traffic signal components being installed, modified or being affected in other ways by this contract:

- All Mast Arm Poles and Posts
- Traffic Signal Wood Poles
- Rail Road Bungalow
- UPS
- Handholes
- Conduit roadway crossings
- Controller Cabinets
- Communication Cabinets
- Electric Service Disconnect locations
- CCTV Camera installations
- Fiber Optic Splice Locations
- Conduit Crossings

Datum to be used shall be North American 1983.

Data shall be provided electronically and in print form. The electronic format shall be compatible with MS Excel. Latitude and Longitude shall be in decimal degrees with a minimum of 6 decimal places. Each coordinate shall have the following information:

- File shall be named: TSXXX-YY-MM-DD (i.e. TS22157\_15-01-01)
- Each intersection shall have its own file
- Row 1 should have the location name (i.e. IL 31 @ Klausen)
- Row 2 is blank
- Row 3 is the headers for the columns
- Row 4 starts the data
- Column A (Date) – should be in the following format: MM/DD/YYYY
- Column B (Item) – as shown in the table below
- Column C (Description) – as shown in the table below
- Column D and E (GPS Data) – should be in decimal form, per the IDOT special provisions

Examples:

<b>Date</b>	<b>Item</b>	<b>Description</b>	<b>Latitude</b>	<b>Longitude</b>
01/01/2015	MP (Mast Arm Pole)	NEQ, NB, Dual, Combination Pole	41.580493	- 87.793378
01/01/2015	HH (Handhole)	Heavy Duty, Fiber, Intersection, Double	41.558532	- 87.792571

01/01/2015	ES (Electrical Service)	Ground mount, Pole mount	41.765532	- 87.543571
01/01/2015	CC (Controller Cabinet)		41.602248	- 87.794053
01/01/2015	RSC (Rigid Steel Crossing)	IL 31 east side crossing south leg to center HH at Klausen	41.611111	- 87.790222
01/01/2015	PTZ (PTZ)	NEQ extension pole	41.593434	- 87.769876
01/01/2015	POST (Post)		41.651848	- 87.762053
01/01/2015	MCC (Master Controller Cabinet)		41.584593	- 87.793378
01/01/2015	COMC (Communication Cabinet)		41.584600	- 87.793432
01/01/2015	BBS (Battery Backup System)		41.558532	- 87.792571
01/01/2015	CNCR (Conduit Crossing)	4-inch IL 31 n/o of Klausen	41.588888	- 87.794440

Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the Engineer to be accurate within 1 foot. Upon verification, data collection can begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified.

Accuracy. Data collected is to be mapping grade. A handheld mapping grade GPS device shall be used for the data collection. The receiver shall support differential correction and data shall have a minimum 1 foot accuracy after post processing.

GPS receivers integrated into cellular communication devices, recreational and automotive GPS devices are not acceptable.

The GPS shall be the product of an established major GPS manufacturer having been in the business for a minimum of 6 years.”

Delete the last sentence of the 3<sup>rd</sup> paragraph of Article 801.16.

Locating Underground Facilities.

Revise Section 803 to the Standard Specifications to read:

IDOT traffic signal facilities are not part of any of the one-call locating service such as J.U.L.I.E or Digger. If this Contract requires the services of an Electrical Contractor, the Contractor shall be responsible at his/her own expense for locating existing IDOT electrical facilities prior to performing any work. If this Contract does not require the services of an Electrical Contractor,

the Contractor may request one free locate for existing IDOT electrical facilities from the District One Electrical Maintenance Contractor prior to the start of any work. Additional requests may be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any facilities damaged during construction at their expense.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities, locally owned equipment, and leased enforcement camera system facilities, the local Counties or Municipalities may need to be contacted: in the City of Chicago contact Digger at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123 or 811.

#### Restoration of Work Area.

Add the following article to Section 801 of the Standard Specifications:

801.17 Restoration of work area. Restoration of the traffic signal work area shall be included in the related pay items such as foundation, conduit, handhole, underground raceways, etc. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded. All brick pavers disturbed in the work area shall be restored to their original configuration as directed by the Engineer. All damaged brick pavers shall be replaced with a comparable material approved by the Engineer. Restoration of the work area shall be included in the contract without any extra compensation allowed to the Contractor.

#### Bagging Signal Heads.

Light tan colored traffic and pedestrian signal reusable covers shall be used to cover dark/un-energized signal sections and visors. Covers shall be made of outdoor fabric with urethane coating for repelling water, have elastic fully sewn around the cover ends for a tight fit over the visor, and have a minimum of two straps with buckles to secure the cover to the backplate. A center mesh strip allows viewing without removal for signal status testing purposes. Covers shall include a message indicating the signal is not in service.

### **SERVICE INSTALLATION (TRAFFIC SIGNALS)**

Effective: May 22, 2002

Revised: June 15, 2016

805.01TS

Revise Section 805 of the Standard Specifications to read:

#### Description.

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

General.

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

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

Materials.

- a. General. The completed control panel shall be constructed in accordance with UL Std. 508A, Industrial Control Panel, and carry the UL label. Wire terminations shall be UL listed.
- b. Enclosures.
  1. Pole Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 4X, unfinished single door design, fabricated from minimum 0.080-inch (2.03 mm) thick Type 5052 H-32 aluminum. Seams shall be continuous welded and ground smooth. Stainless steel screws and clamps shall secure the cover and assure a watertight seal. The cover shall be removable by pulling the continuous stainless steel hinge pin. The cabinet shall have an oil-resistant gasket and a lock kit shall be provided with an internal O-ring in the locking mechanism assuring a watertight and dust-tight seal. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 14-inches (350 mm) high, 9-inches (225 mm) wide and 8-inches (200 mm) in depth is required. The cabinet shall be channel mounted to a wooden utility pole using assemblies recommended by the vendor.
  2. Ground Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 3R unfinished single door design with back panel. The cabinet shall be fabricated from Type 5052 H-32 aluminum with the frame and door 0.125-inch (3.175 mm) thick, the top 0.250-inch (6.350 mm) thick and the bottom 0.500-inch (12.70 mm) thick. Seams shall be continuous welded and ground smooth. The door and door opening shall be double flanged. The door shall be approximately 80% of the front surface, with a full length tamperproof stainless steel .075-inch (1.91 mm) thick hinge bolted to the cabinet with stainless steel carriage bolts and nylocks nuts. The locking mechanism shall be slam-latch type with a keyhole cover. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 40-inches (1000 mm) high, 16-inches (400 mm) wide and 15-inches (375 mm) in depth is required. The cabinet shall be mounted upon a square Type A concrete foundation as indicated on the plans. The foundation is paid for separately.

3. All enclosures shall include a green external power indicator LED light with circuitry as shown in the Electrical Service-Panel Diagram detail sheet. For pole mounted service enclosures, the power indicator light shall be mounted as shown in the detail. For ground mounted enclosures, the power indicator light shall be mounted on the side of the enclosure most visible from the major roadway.
- c. Electric Utility Meter Housing and Riser. The electric meter housing and meter socket shall be supplied and installed by the contractor. The contractor is to coordinate the work to be performed and the materials required with the utility company to make the final connection at the power source. Electric utility required risers, weather/service head and any other materials necessary for connection shall also be included in the pay item. Materials shall be in accordance with the electric utility's requirements. For ground-mounted service, the electric utility meter housing shall be mounted to the enclosure. The meter shall be supplied by the utility company. Metered service shall not be used unless specified in the plans.
- d. Surge Protector. Overvoltage protection, with LED indicator, shall be provided for the 120 volt load circuit by the means MOV and thermal fusing technology. The response time shall be <5n seconds and operate within a range of -40C to +85C. The surge protector shall be UL 1449 Listed.
- e. Circuit Breakers. Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type circuit breakers with trip free indicating handles. 120 volt circuit breakers shall have an interrupting rating of not less than 65,000 rms symmetrical amperes. Unless otherwise indicated, the main disconnect circuit breaker for the traffic signal controller shall be rated 60 amperes, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.
- f. Fuses, Fuseholders and Power Indicating Light. Fuses shall be small-dimensional cylindrical fuses of the dual element time-delay type. The fuses shall be rated for 600 V AC and shall have a UL listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated voltage. The power indicating light shall be LED type with a green colored lens and shall be energized when electric utility power is present.
- g. Ground and Neutral Bus Bars. A single copper ground and neutral bus bar, mounted on the equipment panel shall be provided. Ground and neutral conductors shall be separated on the bus bar. Compression lugs, plus 2 spare lugs, shall be sized to accommodate the cables with the heads of the connector screws painted green for ground connections and white for neutral connections.
- h. Utility Services Connection. The Contractor shall notify the Utility Company marketing representative a minimum of 30 working days prior to the anticipated date of hook-up. This 30 day advance notification will begin only after the Utility Company marketing representative has received service charge payments from the Contractor. Prior to contacting the Utility Company marketing representative for service connection, the service installation controller cabinet and cable must be installed for inspection by the Utility Company.



- i. Ground Rod. Ground rods shall be copper-clad steel, a minimum of 10 feet (3.0m) in length, and 3/4 inch (20mm) in diameter. Ground rod resistance measurements to ground shall be 25 ohms or less. If necessary additional rods shall be installed to meet resistance requirements at no additional cost to the contract.

Installation.

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

Basis of Payment.

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

**GROUNDING OF TRAFFIC SIGNAL SYSTEMS**

Effective: May 22, 2002

Revised: July 1, 2015

806.01TS

Revise Section 806 of the Standard Specifications to read:

General.

All traffic signal systems, equipment and appurtenances shall be properly grounded in strict conformance with the NEC. This work shall be in accordance with IDOT's District One Traffic Signal Design Details.

The grounding electrode system shall include a ground rod installed with each traffic signal controller concrete foundation and all mast arm and post concrete foundations. An additional ground rod will be required at locations where measured resistance exceeds 25 ohms. Ground rods are included in the applicable concrete foundation or service installation pay item and will not be paid for separately.

Testing shall be according to Article 801.13 (a) (4) and (5).

- (a) The grounded conductor (neutral conductor) shall be white color coded. This conductor shall be bonded to the equipment grounding conductor only at the Electric Service Installation. All power cables shall include one neutral conductor of the same size.
- (b) The equipment grounding conductor shall be green color coded. The following is in addition to Article 801.04 of the Standard Specifications.
  - 1. Equipment grounding conductors shall be bonded to the grounded conductor (neutral conductor) only at the Electric Service Installation. The equipment grounding conductor is paid for separately and shall be continuous. The Earth shall not be used as the equipment grounding conductor.
  - 2. Equipment grounding conductors shall be bonded, using a UL Listed grounding connector, to all traffic signal mast arm poles, traffic signal posts, pedestrian posts, pull boxes, handhole frames and covers, conduits, and other metallic enclosures throughout the traffic signal wiring system, except where noted herein. Bonding shall be made with a splice and pigtail connection, using a sized compression type copper sleeve, sealant tape, and heat-shrinkable cap. A UL listed electrical joint compound shall be applied to all conductors' terminations, connector threads and contact points. Conduit grounding bushings shall be installed at all conduit terminations including spare or empty conduits.
  - 3. All metallic and non-metallic raceways shall have a continuous equipment grounding conductor, except raceways containing only detector loop lead-in circuits, circuits under 50 volts and/or fiber optic cable will not be required to include an equipment grounding conductor.
  - 4. Individual conductor splices in handholes shall be soldered and sealed with heat shrink. When necessary to maintain effective equipment grounding, a full cable heat shrink shall be provided over individual conductor heat shrinks.
- (c) The grounding electrode conductor shall be similar to the equipment grounding conductor in color coding (green) and size. The grounding electrode conductor is used to connect the ground rod to the equipment grounding conductor and is bonded to ground rods via exothermic welding, UL listed pressure connectors, and UL listed clamps.

## **COILABLE NON-METALLIC CONDUIT**

Effective: May 22, 2002

Revised: July 1, 2015

810.01TS

### Description.

This work shall consist of furnishing and installing empty coilable non-metallic conduit (CNC).

### General.

The CNC installation shall be in accordance with Sections 810 and 811 of the Standard Specifications except for the following:

Add the following to Article 810.03 of the Standard Specifications:

CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways to the handholes.

Add the following to Article 811.03 of the Standard Specifications:

On temporary traffic signal installations with detector loops, CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways from the saw-cut to 10 feet (3m) up the wood pole, unless otherwise shown on the plans

Basis of Payment.

All installations of CNC for loop detection shall be included in the contract and not paid for separately.

**UNDERGROUND RACEWAYS**

Effective: May 22, 2002

Revised: July 1, 2015

810.02TS

Revise Article 810.04 of the Standard Specifications to read:

“Installation. All underground conduits shall have a minimum depth of 30-inches (700 mm) below the finished grade.”

Add the following to Article 810.04 of the Standard Specifications:

“All metal conduit installed underground shall be Rigid Steel Conduit unless otherwise indicated on the plans.”

Add the following to Article 810.04 of the Standard Specifications:

“All raceways which extend outside of a structure or duct bank but are not terminated in a cabinet, junction box, pull box, handhole, post, pole, or pedestal shall extend a minimum of 300 mm (12”) or the length shown on the plans beyond the structure or duct bank. The end of this extension shall be capped and sealed with a cap designed for the conduit to be capped.

The ends of rigid metal conduit to be capped shall be threaded, the threads protected with full galvanizing, and capped with a threaded galvanized steel cap.

The ends of rigid nonmetallic conduit and coilable nonmetallic conduit shall be capped with a rigid PVC cap of not less than 3 mm (0.125”) thick. The cap shall

be sealed to the conduit using a room-temperature-vulcanizing (RTV) sealant compatible with the material of both the cap and the conduit. A washer or similar metal ring shall be glued to the inside center of the cap with epoxy, and the pull cord shall be tied to this ring.”

## **HANDHOLES**

### Description.

Add the following to Section 814 of the Standard Specifications:

All conduits shall enter the handhole at a depth of 30 inches (762 mm) except for the conduits for detector loops when the handhole is less than 5 feet (1.52 m) from the detector loop. All conduit ends should be sealed with a waterproof sealant to prevent the entrance of contaminants into the handhole.

Steel cable hooks shall be coated with hot-dipped galvanization in accordance with AASHTO Specification M111. Hooks shall be a minimum of 1/2 inch (13 mm) diameter with two 90 degree bends and extend into the handhole at least 6 inches (152 mm). Hooks shall be placed a minimum of 12 inches (305 mm) below the lid or lower if additional space is required.

Precast round handholes shall not be used unless called out on the plans.

The cover of the handhole frame shall be labeled “Traffic Signals” with legible raised letters.

Revise the third paragraph of Article 814.03 of the Standard Specifications to read:

“Handholes shall be constructed as shown on the plans and shall be cast-in-place, or precast concrete units. Heavy duty handholes shall be either cast-in-place or precast concrete units.”

Add the following to Article 814.03 of the Standard Specifications:

“(c) Precast Concrete. Precast concrete handholes shall be fabricated according to Article 1042.17. Where a handhole is contiguous to a sidewalk, preformed joint filler of 1/2 inch (13 mm) thickness shall be placed between the handhole and the sidewalk.”

### Cast-In-Place Handholes.

All cast-in-place handholes shall be concrete, with inside dimensions of 21-1/2 inches (546 mm) minimum. Frames and lid openings shall match this dimension.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (11 mm) diameter stainless steel bolt cast into the frame. The covers shall have a stainless steel threaded stint extended from the eye hook assembly for the purpose of attaching the grounding conductor to the handhole cover.

The minimum wall thickness for heavy duty hand holes shall be 12 inches (305mm).

Precast Round Handholes.

All precast handholes shall be concrete, with inside dimensions of 30 inches (762mm) diameter. Frames and covers shall have a minimum opening of 26 inches (660mm) and no larger than the inside diameter of the handhole.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (11 mm) diameter stainless steel bolt cast into the frame. For the purpose of attaching the grounding conductor to the handhole cover, the covers shall either have a 7/16 inch (11 mm) diameter stainless steel bolt cast into the cover or a stainless steel threaded stint extended from an eye hook assembly. A hole may be drilled for the bolt if one cannot be cast into the frame or cover. The head of the bolt shall be flush or lower than the top surface of the cover.

The minimum wall thickness for precast heavy duty hand holes shall be 6 inches (152 mm).

Precast round handholes shall be only produced by an approved precast vendor.

Materials.

Add the following to Section 1042 of the Standard Specifications:

“1042.17 Precast Concrete Handholes. Precast concrete handholes shall be according to Articles 1042.03(a)(c)(d)(e).”

**MAINTENANCE OF EXISTING TRAFFIC SIGNAL AND FLASHING BEACON  
INSTALLATION**

Effective: May 22, 2002

Revised: July 1, 2015

850.01TS

General.

1. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the Contract or any portion thereof. If Contract work is started prior to a traffic signal inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection.
2. The Contractor shall have electricians with IMSA Level II certification on staff to provide signal maintenance. A copy of the certification shall be immediately available upon request of the Engineer.
3. This item shall include maintenance of all traffic signal equipment and other connected and related equipment such as flashing beacons, emergency vehicle pre-emption equipment, master controllers, uninterruptable power supply (UPS and batteries), PTZ cameras, vehicle detection, handholes, lighted signs, telephone service installations, communication cables, conduits to adjacent intersections, and other traffic signal equipment.

4. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers, radios and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.
5. Maintenance shall not include Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, or peripheral equipment. This equipment is operated and maintained by the local municipality and should be de-activated while on contractor maintenance.
6. The energy charges for the operation of the traffic signal installation shall be paid for by the Contractor.

Maintenance.

1. The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. The Contractor shall check signal system communications and phone lines to assure proper operation. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment. The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs. Prior to the traffic signal maintenance transfer, the contractor shall supply a detailed maintenance schedule that includes dates, locations, names of electricians providing the required checks and inspections along with any other information requested by the Engineer.
2. The Contractor is advised that the existing and/or span wire traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.
3. The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected or otherwise removed from normal operation, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. When the signals operate in flash, the Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.
4. The Contractor shall provide the Engineer with 2 (two) 24 hour telephone numbers for the maintenance of the traffic signal installation and for emergency calls by the Engineer.

5. Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of the Standard Specifications and these special provisions.
6. The Contractor shall respond to all emergency calls from the Department or others within one (1) hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the contract. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's Electrical Maintenance Contractor perform the maintenance work. The Contractor shall be responsible for all of the State's Electrical Maintenance Contractor's costs and liquidated damages of \$1000 per day per occurrence. The State's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.
7. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.
8. Equipment included in this item that is damaged or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices outside the controller cabinet shall not be allowed.
9. Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause, shall be the responsibility of the municipality or the Automatic Traffic Enforcement Company per Permit agreement.
10. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.

11. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be paid for separately but shall be included in the contract.
12. Temporary replacement of damaged or knockdown of a mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals will not be permitted.

Basis of Payment.

This work will be paid for at the contract unit price per each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION. Each intersection will be paid for separately. Maintenance of a standalone and or not connected flashing beacon shall be paid for at the contract unit price for MAINTENANCE OF EXISTING FLASHING BEACON INSTALLATION. Each flashing beacon will be paid for separately.

**TRAFFIC SIGNAL PAINTING**

Effective: May 22, 2002

Revised: July 1, 2015

851.01TS

Description.

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

Surface Preparation.

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

Painted Finish.

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

The finish paint color shall be one of the vendor's standard colors and shall be as selected by the local agency responsible for paint costs. The Contractor shall confirm, in writing, the color



selection with the local responsible agency and provide a copy of the approval to the Engineer and a copy of the approval shall be included in the material catalog submittal.

Painting of traffic signal heads, pedestrian signal heads and controller cabinets is not included in this pay item.

Any damage to the finish after leaving the vendor's facility shall be repaired to the satisfaction of the Engineer using a method recommended by the vendor and approved by the Engineer. If while at the vendor's facility the finish is damaged, the finish shall be re-applied at no cost to the contract.

Warranty.

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

Packaging.

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

Basis of Payment.

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

**FULL-ACTUATED CONTROLLER AND CABINET**

Effective: January 1, 2002  
Revised: November 1, 2020  
857.02TS

Description.

This work shall consist of furnishing and installing a traffic actuated solid state digital controller in the controller cabinet of the type specified, meeting the requirements of Section 857 of the Standard Specifications, as modified herein, including malfunction management unit, load switches and flasher relays, with all necessary connections for proper operation.

If the intersection is part of an existing system and/or when specified in the plans, this work shall consist of furnishing and installing a(n) "Eagle/Siemens" brand traffic actuated solid state controller.

Materials.

Add the following to Article 857.02 of the Standard Specifications:

For installation as a stand-alone traffic signal, connected to a closed loop system or integrated into an advance traffic management system (ATMS), controllers shall be Econolite Cobalt

(Graphics Edition) or Eagle/Siemens M60 unless specified otherwise on the plans or elsewhere on these specifications. Only controllers supplied by one of the District One approved closed loop equipment suppliers will be allowed. Unless specified otherwise on the plans or these specifications, the controller shall be of the most recent model and software version supplied by the equipment supplier at the time of the traffic signal TURN-ON. A removable controller data key shall also be provided. Individual load switches shall be provided for each vehicle, pedestrian, and right turn over lap phase. The controller shall prevent phases from being skipped during program changes and after all preemption events and shall inhibit simultaneous display of circular yellow and yellow arrow indications.

For integration into an ATMS such as Centrac, Tactics, or TransSuite, the controller shall have the latest version of NTCIP software installed. For operation prior to integration into an ATMS, the controller shall maintain existing close loop management communications.

Add the following to Article 1074.03 of the Standard Specifications:

- (a) (6) Cabinets shall be designed for NEMA TS2 Type 1 operation. All cabinets shall be pre-wired for a minimum of eight (8) phases of vehicular, four (4) phases of pedestrian and four (4) phases of overlap operation.
- (b) (1) Revise "conflict monitor" to read "Malfunction Management Unit"
- (b) (5) Cabinets – Provide 1/8" (3.2 mm) thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel.
- (b) (6) Controller Harness – Provide a TS2 Type 2 "A" wired harness in addition to the TS2 Type 1 harness.
- (b) (7) Surge Protection – Shall be a 120VAC Single phase Modular filter Plug-in type, supplied from an approved vendor.
- (b) (8) BIU – shall be secured by mechanical means.
- (b) (9) Transfer Relays – Solid state or mechanical flash relays are acceptable.
- (b) (10) Switch Guards – All switches shall be guarded.
- (b) (11) Heating – One (1) 200 watt, thermostatically-controlled, electric heater.
- (b) (12) Lighting – One (1) LED Panel shall be placed inside the cabinet top panel and one (1) LED Panel shall be placed on each side of the pull-out drawer/shelf assembly located beneath the controller support shelf. The LED Panels shall be controlled by a door switch. The LED Panels shall be provided from an approved vendor.
- (b) (13) The cabinet shall be equipped with a pull-out drawer/shelf assembly. A 1 ½ inch (38mm) deep drawer shall be provided in the cabinet, mounted directly beneath the controller support shelf. The drawer shall have a hinged top cover and shall be capable of accommodating one (1) complete set of cabinet prints and manuals. This drawer shall support 50 lbs. (23 kg) in weight when fully extended. The drawer shall open and close smoothly. Drawer dimensions shall make maximum use of available depth offered by the controller shelf and be a minimum of 18 inches (610mm) wide.
- (b) (14) Plan & Wiring Diagrams – 12" x 15" (305mm x 406mm) moisture sealed container attached to door.
- (b) (15) Detector Racks – Fully wired and labeled for four (4) channels of emergency vehicle pre-emption and sixteen channels (16) of vehicular operation.

- (b) (16) Field Wiring Labels – All field wiring shall be labeled.
- (b) (17) Field Wiring Termination – Approved channel lugs required.
- (b) (18) Power Panel – Provide a nonconductive shield.
- (b) (19) Circuit Breaker – The circuit breaker shall be sized for the proposed load but shall not be rated less than 30 amps.
- (b) (20) Police Door – Provide wiring and termination for plug in manual phase advance switch.

Basis of Payment.

This work will be paid for at the contract unit price each for FULL-ACTUATED CONTROLLER AND TYPE IV CABINET; FULL-ACTUATED CONTROLLER AND TYPE V CABINET; FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET; FULL-ACTUATED CONTROLLER AND TYPE SUPER R CABINET; FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL; FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL; FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET (SPECIAL); FULL-ACTUATED CONTROLLER AND TYPE SUPER R CABINET (SPECIAL).

**UNINTERRUPTABLE POWER SUPPLY, SPECIAL**

Effective: January 1, 2013  
Revised: May 19, 2016  
862.01TS

This work shall be in accordance with section 862 of the Standard Specification except as modified herein

Add the following to Article 862.01 of the Standard Specifications:

The UPS shall have the power capacity to provide normal operation of a signalized intersection that utilizes all LED type signal head optics, for a minimum of 6 (six) hours.

Add the following to Article 862.02 of the Standard Specifications:

Materials shall be according to Article 1074.04 as modified in UNINTERRUPTABLE POWER SUPPLY, SPECIAL.

Add the following to Article 862.03 of the Standard Specifications:

The UPS shall additionally include, but not be limited to, a battery cabinet, where applicable. For Super-P (Type IV) and Super-R (Type V) cabinets, the battery cabinet is integrated to the traffic signal cabinet, and shall be included in the cost for the traffic signal cabinet of the size and type indicated on the plans.

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

Revise Article 862.04 of the Standard Specifications to read:

Installation.

When a UPS is installed at an existing traffic signal cabinet, the UPS cabinet shall partially rest on the lip of the existing controller cabinet foundation and be secured to the existing controller cabinet by means of at least four (4) stainless steel bolts. The UPS cabinet shall be completely enclosed with the bottom and back constructed of the same material as the cabinet.

When a UPS is installed at a new signal cabinet and foundation, it shall be mounted as shown on the plans.

At locations where UPS is installed and an Emergency Vehicle Priority System is in use, any existing incandescent confirmation beacons shall be replaced with LED lamps in accordance with the District One Emergency Vehicle Priority System specification at no additional cost to the contract. A concrete apron shall be provided and be in accordance with Articles 424 and 202 of the Standard Specifications. The concrete apron shall also, follow the District 1 Standard Traffic Signal Design Detail, Type D for Ground Mounted Controller Cabinet and UPS Battery Cabinet.

This item shall include any required modifications to an existing traffic signal controller as a result of the addition of the UPS including the addition of alarms.

Materials.

Revise Article 1074.04(a)(1) of the Standard Specifications to read:

The UPS shall be line interactive or double conversion and provide voltage regulation and power conditioning when utilizing utility power. The UPS shall be sized appropriately for the intersection(s) normal traffic signal operating load. The UPS must be able to maintain the intersection's normal operating load plus 20 percent (20%) of the intersection's normal operating load. When installed at a railroad-interconnected intersection the UPS must maintain the railroad pre-emption load, plus 20 percent (20%) of the railroad preemption-operating load. The total connected traffic signal load shall not exceed the published ratings for the UPS.

The UPS shall provide a minimum of 6 (six) hours of normal operation run-time for signalized intersections with LED type signal head optics at 77 °F (25 °C) (minimum 1000 W active output capacity, with 86 percent minimum inverter efficiency).

Revise the first paragraph of Article 1074.04(a)(3) of the Standard Specifications to read:

The UPS shall have a minimum of four (4) sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) relay contact closures, available on a panel mounted terminal block or locking circular connectors, rated at a minimum 120 V/1 A, and labeled so as to identify each contact according to the plans.

Revise Article 1074.04(a)(10) of the Standard Specifications to read:

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

Revise Article 1074.04(a)(17) of the Standard Specifications to read:

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

Revise Article 1074.04(b)(2)b of the Standard Specifications to read:

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

Revise Article 1074.04(b)(2)c of the Standard Specifications to read:

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

Revise Article 1074.04(b)(2)e of the Standard Specifications to read:

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

End of paragraph 1074.04(b)(2)e

The door shall be equipped with a two position doorstop, one a 90° and one at 120°.

Revise Article 1074.04(b)(2)g of the Standard Specifications to read:

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

Add the following to Article 1074.04(b)(2) of the Standard Specifications:

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

Add the following to Article 1074.04(c) of the Standard Specifications:

- (8) The UPS shall include a tip or kill switch installed in the battery cabinet, which shall completely disconnect power from the UPS when the switch is manually activated.
- (9) The UPS shall include standard RS-232 and internal Ethernet interface.
- (10) The UPS shall incorporate a flanged electric generator inlet for charging the batteries and operating the UPS. The generator connector shall be male type, twist-lock, rated as 15A, 125VAC with a NEMA L5-15P configuration and weatherproof lift cover plate. Access to the generator inlet shall be from a secured weatherproof lift cover plate or behind a locked battery cabinet police panel.

- (11) The bypass switch shall include an internal power transfer relay that allows removal of the battery back-up unit, while the traffic signal is connected to utility power, without impacting normal traffic signal operation.

Revise Article 1074.04(d)(3) of the Standard Specifications to read:

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

Revise Article 1074.04(d)(4) of the Standard Specifications to read:

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

Add the following to Article 1074.04(d) of the Standard Specifications:

- (9) The UPS shall consist of an even number of batteries that are capable of maintaining normal operation of the signalized intersection for a minimum of 6 (six) hours. Calculations shall be provided showing the number of batteries of the type supplied that are needed to satisfy this requirement. A minimum of four batteries shall be provided.

- (10) Battery Heater mats shall be provided, when gel cell type batteries are supplied.

Add the following to the Article 1074.04 of the Standard Specifications:

- (e) Warranty. The warranty for an uninterruptable power supply (UPS) and batteries (full replacement) shall cover a minimum of 5 years from date the equipment is placed in operation.

- (f) Installation. Bypass switch shall completely disconnect the traffic signal cabinet from the utility provider.

- (g) The UPS shall be set-up to run the traffic signal continuously, without going to a red flashing condition, when switched to battery power unless otherwise directed by the Engineer. The Contractor shall confirm set-up with the Engineer. The continuous operation mode when switched to battery may require modification to unit connections and these modifications are included in the unit price for this item.

Revise Article 862.05 of the Standard Specifications to read:

Basis of Payment.

This work will be paid for at the contract unit price per each for UNINTERRUPTABLE POWER SUPPLY, SPECIAL or UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL. Replacement of Emergency Vehicle Priority System confirmation beacons and any required modifications to the traffic signal controller shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY, SPECIAL or UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL item. The concrete apron and earth excavation required shall be

included in the cost of the UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL item.

**ELECTRIC CABLE**

Effective: May 22, 2002

Revised: July 1, 2015

873.01TS

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

Add the following to the Article 1076.04(d) of the Standard Specifications:

Service cable may be single or multiple conductor cable.

## **REMOVE EXISTING DOUBLE HANDHOLE**

This item shall consist of removing an existing double handhole at a location shown on the plans or as directed by the Engineer. The work shall consist of removing the handhole frame and cover and the walls of the handhole to a minimum depth of three (3) feet below the surrounding grade and shall meet the pertinent sections of Section 895 of the Standard Specifications.

All concrete debris shall be disposed of outside the right-of-way.

### **Basis of Payment.**

This work shall be paid for at the contract unit price each for REMOVE EXISTING DOUBLE HANDHOLE, which price shall be payment in full for all labor, materials, and equipment necessary to complete the work described above and as indicated on the drawings.

## **EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C**

Effective: January 1, 2013

Revised: July 1, 2015

873.03TS

This work shall consist of furnishing and installing lead-in cable for light detectors installed at existing and/or proposed traffic signal installations as part of an emergency vehicle priority system. The work includes installation of the lead-in cables in existing and/or new conduit. The electric cable shall be shielded and have (3) stranded conductors, colored blue, orange, and yellow with a stranded tinned copper drain wire. The cable shall meet the requirements of the vendor of the Emergency Vehicle Priority System Equipment.

### **Basis of Payment.**

This work will be paid for at the contract unit price per foot for EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C, which price shall be payment in full for furnishing, installing and making all electrical connections necessary for proper operations.



**TRAFFIC SIGNAL POST**

Effective: May 22, 2002  
Revised: July 14, 2021  
875.01TS

Revise Article 1077.01 (c) of the Standard Specifications to read:

- (c) Anchor Rods. The anchor rods shall be a minimum of 5/8 in. in diameter and 16 in. long and shall be according to Article 1006.09. The anchor rods shall be threaded approximately 6 in. at one end and have a bend at the other end. The first 12 in. at the threaded end shall be galvanized. One each galvanized nut and trapezoidal washer shall be furnished with each anchor rod. The washer shall be properly sized to fully engage and sit flush on all sides of the slot of the base plate.

Revise the first sentence of Article 1077.01 (d) of the Standard Specifications to read:

All posts shall be steel and bases shall be cast iron. All posts and bases shall be hot dipped galvanized according to AASHTO M 111. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

**MAST ARM ASSEMBLY AND POLE**

Effective: May 22, 2002  
Revised: July 01, 2015  
877.01TS

Revise the second sentence of Article 1077.03 (a)(3) of the Standard Specifications to read:

Traffic signal mast arms shall be one piece construction, unless otherwise approved by the Engineer.

Add the following to Article 1077.03 (a)(3) of the Standard Specifications:

If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

**CONCRETE FOUNDATIONS**

Effective: May 22, 2002  
Revised: November 01, 2018  
878.01TS

Add the following to Article 878.03 of the Standard Specifications:

All anchor bolts shall be according to Article 1006.09, with all anchor bolts hot dipped galvanized a minimum of 12 in. at the threaded end.

No foundation is to be poured until the Resident Engineer gives his/her approval as to the depth of the foundation.

Add the following to the first paragraph of Article 878.05 of the Standard Specifications:

The concrete apron in front of the cabinet and UPS shall be included in this pay item.

## **LIGHT EMITTING DIODE (LED) SIGNAL HEAD AND OPTICALLY PROGRAMMED LED SIGNAL HEAD**

Effective: May 22, 2002

Revised: July 1, 2015

880.01TS

### Materials.

Add the following to Section 1078 of the Standard Specifications:

1. LED modules proposed for use and not previously approved by IDOT District One will require independent testing for compliance to current VTCSH-ITE standards for the product and be Intertek ETL Verified. This would include modules from new vendors and new models from IDOT District One approved vendors.
2. The proposed independent testing facility shall be approved by IDOT District One. Independent testing must include a minimum of two (2) randomly selected modules of each type of module (i.e. ball, arrow, pedestrian, etc.) used in the District and include as a minimum Luminous Intensity and Chromaticity tests. However, complete module performance verification testing may be required by the Engineer to assure the accuracy of the vendor's published data and previous test results. An IDOT representative will select sample modules from the local warehouse and mark the modules for testing. Independent test results shall meet current ITE standards and vendor's published data. Any module failures shall require retesting of the module type. All costs associated with the selection of sample modules, testing, reporting, and retesting, if applicable, shall be the responsibility of the LED module vendor and not be a cost to this contract.
3. All signal heads shall provide 12" (300 mm) displays with glossy yellow or black polycarbonate housings. All head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all signals heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on. Post top mounting collars are required on all posts, and shall be constructed of the same material as the brackets.
4. The LED signal modules shall be replaced or repaired if an LED signal module fails to function as intended due to workmanship or material defects within the first 7 years from the date of traffic signal TURN-ON. LED signal modules which exhibit luminous intensities

less than the minimum values specified in Table 1 of the ITE Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement (June 27, 2005) [VTSCH], or applicable successor ITE specifications, or show signs of entrance of moisture or contaminants within the first 7 years of the date of traffic signal TURN-ON shall be replaced or repaired. The vendor's written warranty for the LED signal modules shall be dated, signed by a vendor's representative and included in the product submittal to the State.

(a) Physical and Mechanical Requirements

1. Modules can be manufactured under this specification for the following faces:
  - a. 12 inch (300 mm) circular, multi-section
  - b. 12 inch (300 mm) arrow, multi-section
2. The maximum weight of a module shall be 4 lbs. (1.8 kg).
3. Each module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
5. The lens of the module shall be tinted with a wavelength-matched color to reduce sun phantom effect and enhance on/off contrast. The tinting shall be uniform across the lens face. Polymeric lens shall provide a surface coating or chemical surface treatment applied to provide abrasion resistance. The lens of the module shall be integral to the unit, convex with a smooth outer surface and made of plastic. The lens shall have a textured surface to reduce glare.
6. The use of tinting or other materials to enhance ON/OFF contrasts shall not affect chromaticity and shall be uniform across the face of the lens.
7. Each module shall have a symbol of the type of module (i.e. circle, arrow, etc.) in the color of the module. The symbol shall be 1 inch (25.4 mm) in diameter. Additionally, the color shall be written out in 1/2 inch (12.7mm) letters next to the symbol.

(b) Photometric Requirements

4. The LEDs utilized in the modules shall be AlInGaP technology for red and InGaN for green and amber indications, and shall be the ultra bright type rated for 100,000 hours of continuous operation from -40 °C to +74 °C.

(c) Electrical

1. Maximum power consumption for LED modules is per Table 2.
2. Operating voltage of the modules shall be 120 VAC. All parameters shall be measured at this voltage.

3. The modules shall be operationally compatible with currently used controller assemblies (solid state load switches, flashers, and conflict monitors).
4. When a current of 20 mA AC (or less) is applied to the unit, the voltage read across the two leads shall be 15 VAC or less.
5. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.
6. LED arrows shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

(d) Retrofit Traffic Signal Module

1. The following specification requirements apply to the Retrofit module only. All general specifications apply unless specifically superseded in this section.
2. Retrofit modules can be manufactured under this specification for the following faces:
  - a. 12 inch (300 mm) circular, multi-section
  - b. 12 inch (300 mm) arrow, multi-section
3. Each Retrofit module shall be designed to be installed in the doorframe of a standard traffic signal housing. The Retrofit module shall be sealed in the doorframe with a one-piece EPDM (ethylene propylene rubber) gasket.
4. The maximum weight of a Retrofit module shall be 4 lbs. (1.8 kg).
5. Each Retrofit module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
6. Electrical conductors for modules, including Retrofit modules, shall be 39.4 inches (1m) in length, with quick disconnect terminals attached.
7. The lens of the Retrofit module shall be integral to the unit, shall be convex with a smooth outer surface and made of plastic or of glass.

(e) The following specification requirements apply to the 12 inch (300 mm) arrow module only. All general specifications apply unless specifically superseded in this section.

1. The arrow module shall meet specifications stated in Section 9.01 of the Equipment and Material Standards of the Institute of Transportation Engineers (November 1998) [ITE Standards], Chapter 2 (Vehicle Traffic Control Signal Heads) or applicable successor ITE specifications for arrow indications.
2. The LEDs arrow indication shall be a solid display with a minimum of three (3) outlining rows of LEDs and at least one (1) fill row of LEDs.

(f) The following specification requirement applies to the 12 inch (300 mm) programmed visibility (PV) module only. All general specifications apply unless specifically superseded in this section.

1. The LED module shall be a module designed and constructed to be installed in a programmed visibility (PV) signal housing without modification to the housing.

Basis of Payment.

Add the following to the first paragraph of Article 880.04 of the Standard Specifications:

The price shall include furnishing the equipment described above, all mounting hardware and installing them in satisfactory operating condition.

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

If the work consists of retrofitting an existing polycarbonate traffic signal head with light emitting diodes (LEDs), it will be paid for as a SIGNAL HEAD, LED, RETROFIT, of the type specified, and of the particular kind of material, when specified. Price shall be payment in full for removal of the existing module, furnishing the equipment described above including LED modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of signal faces, the number of signal sections in each signal face and the method of mounting.

**LIGHT EMITTING DIODE (LED) PEDESTRIAN SIGNAL HEAD**

Effective: May 22, 2002

Revised: July 1, 2015

881.01TS

Add the following to the third paragraph of Article 881.03 of the Standard Specifications:

No mixing of different types of pedestrian traffic signals or displays will be permitted.

Add the following to Article 881.03 of the Standard Specifications:

(a) Pedestrian Countdown Signal Heads.

- (1) Pedestrian Countdown Signal Heads shall not be installed at signalized intersections where traffic signals and railroad warning devices are interconnected.
- (2) Pedestrian Countdown Signal Heads shall be 16 inch (406mm) x 18 inch (457mm), for single units with glossy yellow or black polycarbonate housings. All pedestrian head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all pedestrian heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on.

- (3) Each pedestrian signal LED module shall be fully MUTCD compliant and shall consist of double overlay message combining full LED symbols of an Upraised Hand and a Walking Person. "Egg Crate" type sun shields are not permitted. Numerals shall measure 9 inches (229mm) in height and easily identified from a distance of 120 feet (36.6m).

Materials.

Add the following to Article 1078.02 of the Standard Specifications:

General.

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

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

Basis of Payment.

Add the following to the first paragraph of Article 881.04 of the Standard Specifications:

The price shall include furnishing the equipment described above, all mounting hardware and installing them in satisfactory operating condition.

Add the following to Article 881.04 of the Standard Specifications:

If the work consists of retrofitting an existing polycarbonate pedestrian signal head and pedestrian countdown signal head with light emitting diodes (LEDs), it will be paid for as a PEDESTRIAN SIGNAL HEAD, LED, RETROFIT, of the type specified, and of the particular kind of material, when specified. Price shall be payment in full for furnishing the equipment described above including LED modules, all mounting hardware, and installing them in satisfactory operating condition.

**DETECTOR LOOP**

Effective: May 22, 2002  
Revised: July 1, 2018  
886.01TS

Procedure.

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

Installation.

Revise Article 886.04 of the Standard Specifications to read:

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

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

Each loop detector lead-in wire shall be labeled in the handhole using a water proof tag, from an approved vendor, secured to each wire with nylon ties.

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

- (a) Type I. All loops installed in new asphalt pavement shall be installed in the binder course and not in the surface course. The edge of pavement, curb and handhole shall be cut with a 1/4 inch (6.3 mm) deep x 4 inches (100 mm) saw cut to mark location of each loop cable.
- (b) Loop sealant shall be two-component thixotropic chemically cured polyurethane from an approved vendor. The sealant shall be installed 1/8 inch (3 mm) below the pavement surface. If installed above the surface the excess shall be removed immediately.
- (c) Preformed. This work shall consist of furnishing and installing a rubberized or cross linked polyethylene heat resistant preformed traffic signal loop in accordance with the Standard Specifications, except for the following:
  - (d) Preformed detector loops shall be installed in the sub-base under the Portland cement concrete pavement. Loop lead-ins shall be extended to a temporary protective enclosure near the proposed handhole location. The protective enclosure shall provide sufficient protection from other construction activities and may be buried for additional protection.
  - (e) Handholes shall be placed next to the shoulder or back of curb when preformed detector loops enter the handhole. CNC, included in this pay item, shall be used to protect the preformed lead-ins from back of curb to the handhole.
  - (f) Preformed detector loops shall be factory assembled with ends capped and sealed against moisture and other contaminants. The loop configurations and homerun lengths shall be assembled for the specific application. The loop and homerun shall be constructed using 5/8 inch (16 mm) outside diameter (minimum), 3/8 inch (9.5 mm) inside diameter (minimum) Class A oil resistant synthetic cord reinforced hydraulic hose with 250 psi (1,720 kPa) internal pressure rating or a similarly sized XLPE cable jacket. Hose for the loop and homerun assembly shall be one continuous piece. No joints or splices shall be allowed in the hose except where necessary to connect homeruns to the loops. This will provide maximum wire protection and loop system strength. Hose tee connections shall be heavy duty high temperature synthetic rubber. The tee shall be of proper size to attach directly to the hose, minimizing glue joints. The tee shall have the same flexible properties as the hose to insure that the whole assembly can conform to pavement movement and shifting without cracking or breaking. For XLPE jacketed preformed loops, all splice connections shall be soldered, sealed, and tested before being sealed in a high impact glass impregnated plastic splice enclosure. The wire used shall be #16 THWN stranded copper. The number of turns in the loop shall be application specific. Homerun wire pairs shall be twisted a minimum of eight turns per foot. No wire splices will be allowed in the preformed loop assembly. The loop and homeruns shall be filled and sealed with a flexible sealant to insure complete moisture



blockage and further protect the wire. The preformed loops shall be constructed to allow a minimum of 6.5 feet of extra cable in the handhole.

Method of Measurement.

Add the following to Article 886.05 of the Standard Specifications:

Preformed detector loops will be measured along the detector loop embedded in the pavement, rather than the actual length of the wire. Detector loop measurements shall include the saw cut and the length of the detector loop wire to the edge of pavement. The detector loop wire, including all necessary connections for proper operations, from the edge of pavement to the handhole, shall be included in the price of the detector loop. CNC, trench and backfill, and drilling of pavement or handholes shall be included in detector loop quantities.

Basis of Payment.

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

**EMERGENCY VEHICLE PRIORITY SYSTEM**

Effective: May 22, 2002

Revised: July 1, 2015

887.01TS

Revise Section 887 of the Standard Specifications to read:

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

All new installations shall be equipped with Confirmation Beacons as shown on the "District One Standard Traffic Signal Design Details." The Confirmation Beacon shall consist of a 6 watt Par 38 LED flood lamp with a 30 degree light spread, or a 7 watt Par 30 LED flood lamp with a 15 degree or greater spread, maximum 7 watt energy consumption at 120V, and a 2,000 hour warranty for each direction of pre-emption. The lamp shall have an adjustable mount with a weatherproof enclosure for cable splicing. All hardware shall be cast aluminum or stainless steel. Holes drilled into signal poles, mast arms, or posts shall require rubber grommets. In order to maintain uniformity between communities, the confirmation beacons shall indicate when the control equipment receives the pre-emption signal. The pre-emption movement shall be signaled by a flashing indication at the rate specified by Section 4L.01 of the "Manual on Uniform Traffic Control Devices," and other applicable sections of future editions. The stopped pre-empted movements shall be signaled by a continuous indication.

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

This item shall include any required modifications to an existing traffic signal controller as a result of the addition of the EMERGENCY VEHICLE PRIORITY SYSTEM.

Basis of Payment.

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

**TEMPORARY TRAFFIC SIGNAL INSTALLATION**

Effective: May 22, 2002

Revised: January 1, 2017

890.01TS

Revise Section 890 of the Standard Specifications to read:

Description.

This work shall consist of furnishing, installing, maintaining, and removing a temporary traffic signal installation as shown on the plans, including but not limited to temporary signal heads, emergency vehicle priority systems, interconnect, vehicle detectors, uninterruptable power supply, and signing. Temporary traffic signal controllers and cabinets interconnected to railroad traffic control devices shall be new. When temporary traffic signals will be operating within a county or local agency Traffic Management System, the equipment must be NTCIP compliant and compatible with the current operating requirements of the Traffic Management System.

General.

Only an approved controller equipment supplier will be allowed to assemble temporary traffic signal and railroad traffic signal cabinet. Traffic signal inspection and TURN-ON shall be according to 800.01TS TRAFFIC SIGNAL GENERAL REQUIREMENTS special provision.

Construction Requirements.

(a) Controllers.

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

controllers and cabinets shall be new and shall satisfy the requirements of Article 857.02 of the Standard Specifications and as modified herein.

2. Only control equipment, including controller cabinet and peripheral equipment, supplied by one of the District approved closed loop equipment suppliers will be approved for use at temporary traffic signal locations. All control equipment for the temporary traffic signal(s) shall be furnished by the Contractor unless otherwise stated in the plans. On projects with multiple temporary traffic signal installations, all controllers shall be the same manufacturer brand and model number with the latest version software installed at the time of the signal TURN-ON.
- (b) Cabinets. All temporary traffic signal cabinets shall have a closed bottom made of aluminum alloy. The bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust and insect-proof seal. The bottom shall provide a minimum of two (2) 4 inch (100 mm) diameter holes to run the electric cables through. The 4 inch (100 mm) diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.
  - (c) Grounding. Grounding shall be provided for the temporary traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code, Section 806 of the Standard Specifications and shall meet the requirements of the 806.01TS GROUNDING OF TRAFFIC SIGNAL SYSTEMS special provision.
  - (d) Traffic Signal Heads. All traffic signal sections shall be 12 inches (300 mm). Pedestrian signal sections shall be 16 inch (406mm) x 18 inch (457mm). Traffic signal sections shall be LED with expandable view, unless otherwise approved by the Engineer. Pedestrian signal heads shall be Light Emitting Diode (LED) Pedestrian Countdown Signal Heads except when a temporary traffic signal is installed at an intersection interconnected with a railroad grade crossing. When a temporary traffic signal is installed at an intersection interconnected with a railroad grade crossing, Light Emitting Diode (LED) Pedestrian Signal Heads shall be furnished. The temporary traffic signal heads shall be placed as indicated on the temporary traffic signal plan or as directed by the Engineer. If no traffic staging is in place or will not be staged on the day of the turn on, the temporary traffic signal shall have the signal head displays, signal head placements and controller phasing match the existing traffic signal or shall be as directed by the engineer. The Contractor shall furnish enough extra cable length to relocate heads to any position on the span wire or at locations illustrated on the plans for construction staging. The temporary traffic signal shall remain in operation during all signal head relocations. Each temporary traffic signal head shall have its own cable from the controller cabinet to the signal head.
  - (e) Interconnect.
    1. Temporary traffic signal interconnect shall be provided using fiber optic cable or wireless interconnect technology as specified in the plans. The Contractor may request, in writing, to substitute the fiber optic temporary interconnect indicated in the contract documents with a wireless interconnect. The Contractor must provide assurances that the radio device will operate properly at all times and during all construction staging. If approved for use by the Engineer, the Contractor shall

submit marked-up traffic signal plans indicating locations of radios and antennas and installation details. If wireless interconnect is used, and in the opinion of the engineer, it is not viable, or if it fails during testing or operations, the Contractor shall be responsible for installing all necessary poles, fiber optic cable, and other infrastructure for providing temporary fiber optic interconnect at no cost to the contract.

2. The existing system interconnect and phone lines are to be maintained as part of the Temporary Traffic Signal Installation specified for on the plan. The interconnect, including any required fiber splices and terminations, shall be installed into the temporary controller cabinet as per the notes or details on the plans. All labor and equipment required to install and maintain the existing interconnect as part of the Temporary Traffic Signal Installation shall be included in the cost of TEMPORARY TRAFFIC SIGNAL INSTALLATION. When shown in the plans, temporary traffic signal interconnect equipment shall be furnished and installed. The temporary traffic signal interconnect shall maintain interconnect communications throughout the entire signal system for the duration of the project. Any temporary signal within an existing closed loop traffic signal system shall be interconnected to that system using similar brand control equipment at no additional cost to the contract.
3. Temporary wireless interconnect. The radio interconnect system shall be compatible with Eagle or Econolite controller closed loop systems. This work shall include all temporary wireless interconnect components, at the adjacent existing traffic signal(s) to provide a completely operational closed loop system. This work shall include all materials, labor and testing to provide the completely operational closed loop system as shown on the plans. The radio interconnect system shall include the following components:
  - a. Rack or Shelf Mounted RS-232 Frequency Hopping Spread Spectrum (FHSS) Radio
  - b. Software for Radio Configuration (Configure Frequency and Hopping Patterns)
  - c. Antennas (Omni Directional or Yagi Directional)
  - d. Antenna Cables, LMR400, Low Loss. Max. 100-ft from controller cabinet to antenna
  - e. Brackets, Mounting Hardware, and Accessories Required for Installation
  - f. RS232 Data Cable for Connection from the radio to the local or master controller
  - g. All other components required for a fully functional radio interconnect system

All controller cabinet modifications and other modifications to existing equipment that are required for the installation of the radio interconnect system components shall be included in the cost of TEMPORARY TRAFFIC SIGNAL INSTALLATION.

The radio interconnect system may operate at 900Mhz (902-928) or 2.4 Ghz depending on the results of a site survey. The telemetry shall have an

acceptable rate of transmission errors, time outs, etc. comparable to that of a hardware system.

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

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

- (f) Emergency Vehicle Pre-Emption. All emergency vehicle preemption equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the temporary traffic signal plans shall be provided by the Contractor. It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle preemption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency. All light operated systems shall operate at a uniform rate of 14.035 hz  $\pm$ 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District. All labor and material required to install and maintain the Emergency Vehicle Preemption installation shall be included in the item Temporary Traffic Signal Installation.
- (g) Vehicle Detection. All temporary traffic signal installations shall have vehicular detection installed at all approaches of the intersection and as directed by the Engineer. Pedestrian push buttons shall be provided for all pedestrian signal heads/phases as directed by the Engineer. Microwave vehicle sensors or video vehicle detection system shall be approved by IDOT prior to Contractor furnishing and installing. The Contractor shall install, wire, and adjust the alignment of the microwave vehicle sensor or video vehicle detection system in accordance to the manufacturer's recommendations and requirements. The Contractor shall be responsible for adjusting the alignment of the microwave vehicle sensor or video vehicle detection system for all construction staging changes and for maintaining proper alignment throughout the project. An equipment supplier shall be present and assist the contractor in setting up and maintaining the microwave vehicle sensor or video vehicle detection system. An in-cabinet video monitor shall be provided with all video vehicle detection systems and shall be included in the item Temporary Traffic Signal Installation.
- (h) Uninterruptable Power Supply. All temporary traffic signal installations shall have Uninterruptable Power Supply (UPS). The UPS cabinet shall be mounted to the temporary traffic signal cabinet and shall be according to the applicable portions of Section 862 of the Standard Specifications and as modified in 862.01TS UNINTERRUPTABLE POWER SUPPLY, SPECIAL Special Provision.
- (i) Signs. All existing street name and intersection regulatory signs shall be removed from existing poles and relocated to the temporary signal span wire. If new mast arm assembly and pole(s) and posts are specified for the permanent signals, the signs shall be relocated to the new equipment at no extra cost. Any intersection regulatory

signs that are required for the temporary traffic signal shall be provided as shown on the plans or as directed by the Engineer. Relocation, removing, bagging and installing the regulatory signs for the various construction stages shall be provided as shown on the plans or as directed by the Engineer. If Illuminated Street Name Signs exist they shall be taken down and stored by the contractor and reflecting street name signs shall be installed on the temporary traffic signal installation.

- (j) Energy Charges. The electrical utility energy charges for the operation of the temporary traffic signal installation shall be paid for by others if the installation replaces an existing signal. Otherwise charges shall be paid for under 109.05 of the Standard Specifications.
- (k) Maintenance. Maintenance shall meet the requirements of the Standard Specifications and 850.01TS MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION Special Provisions. Maintenance of temporary signals and of the existing signals shall be included in the cost of the TEMPORARY TRAFFIC SIGNAL INSTALLATION pay item. When temporary traffic signals are to be installed at locations where existing signals are presently operating, the Contractor shall be fully responsible for the maintenance of the existing signal installation as soon as he begins any physical work on the Contract or any portion thereof. In addition, a minimum of seven (7) days prior to assuming maintenance of the existing traffic signal installation(s) under this Contract, the Contractor shall request that the Resident Engineer contact the Bureau of Traffic Operations (847) 705-4424 for an inspection of the installation(s).
- (l) Temporary Traffic Signals for Bridge Projects. Temporary Traffic Signals for bridge projects shall follow the State Standards, Standard Specifications, Special Provisions and any plans for Bridge Temporary Traffic Signals included in the plans. The installation shall meet the Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION specification. In addition all electric cable shall be aerially suspended, at a minimum height of 18 feet (5.5m) on temporary wood poles (Class 5 or better) of 45 feet (13.7 m) minimum height. The signal heads shall be span wire mounted or bracket mounted to the wood pole or as directed by the Engineer. The Controller cabinet shall be mounted to the wood pole as shown in the plans, or as directed by the Engineer. Microwave vehicle sensors or video vehicle detection system may be used in place of detector loops as approved by the Engineer.
- (m) Temporary Portable Traffic Signal for Bridge Projects.
  - 1. The controller and cabinet shall be NEMA type designed for NEMA TS2 Type 1 operation. Controller and LED signal displays shall meet the applicable Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION special provision.
  - 2. Work shall be according to Article 701.18(b) of the Standard Specifications except as noted herein.
  - 3. General.

- a. The temporary portable bridge traffic signals shall be trailer-mounted units. The trailer-mounted units shall be set up securely and level. Each unit shall be self-contained and consist of two signal heads. The left signal head shall be mounted on a mast arm capable of extending over the travel lane. Each unit shall contain a solar cell system to facilitate battery charging. There shall be a minimum of 12 days backup reserve battery supply and the units shall be capable of operating with a 120 V power supply from a generator or electrical service.
- b. All signal heads located over the travel lane shall be mounted at a minimum height of 17 feet (5m) from the bottom of the signal back plate to the top of the road surface. All far right signal heads located outside the travel lane shall be mounted at a minimum height of 8 feet (2.5m) from the bottom of the signal back plate to the top of the adjacent travel lane surface.
- c. The long all red intervals for the traffic signal controller shall be adjustable up to 250 seconds in one-second increments.
- d. As an alternative to detector loops, temporary portable bridge traffic signals may be equipped with microwave sensors or other approved methods of vehicle detection and traffic actuation.
- e. All portable traffic signal units shall be interconnected using hardwire communication cable. Radio communication equipment may be used only with the approval of the Engineer. If radio communication is used, a site analysis shall be completed to ensure that there is no interference present that would affect the traffic signal operation. The radio equipment shall meet all applicable FCC requirements.
- f. The temporary portable bridge traffic signal system shall meet the physical display and operational requirements of conventional traffic signals as specified in Part IV and other applicable portions of the currently adopted version of the Manual on Uniform Traffic Control Devices (MUTCD) and the Illinois MUTCD. The signal system shall be designed to continuously operate over an ambient temperature range between -30 °F (-34 °C) and 120 °F (48 °C). When not being utilized to inform and direct traffic, portable signals shall be treated as non-operating equipment according to Article 701.11.

Basis of Payment.

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

## **TEMPORARY TRAFFIC SIGNAL TIMING**

Effective: May 22, 2002

Revised: July 1, 2015

890.02TS

### Description.

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

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

The following tasks are associated with TEMPORARY TRAFFIC SIGNAL TIMING.

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

### Basis of Payment.

The work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL TIMING, which price shall be payment in full for performing all work described herein per intersection. When the temporary traffic signal installation is turned on and/or detour implemented, 50 percent of the bid price will be paid. The remaining 50 percent of the bid price will be paid following the removal of the temporary traffic signal installation and/or detour.



## **REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT**

Effective: May 22, 2002  
Revised: July 1, 2015  
895.02TS

Add the following to Article 895.05 of the Standard Specifications:

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

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

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

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of these Specifications at no cost to the contract.

## **SOLAR-POWERED ILLUMINATED SIGN, LED**

### Description.

This item of work shall consist of furnishing and installing a solar powered illuminated LED sign with a pedestrian push button, concrete foundation, sign pole, solar panel, battery, and the necessary accessories.

### Materials

The sign shall meet MUTCD standards for a crosswalk and the perimeter of the sign shall have a minimum of eight evenly spaced flashing LED lights. The LED lights shall be solar powered. The sign shall include a wireless transceiver so when either pedestrian push button of the crosswalk system as shown on the plans is activated, both LEDs are synchronized to flash and remain illuminated for the designated time.

The equipment shall be mounted to the 4.5" (O.D.) schedule 40 aluminum pole and the pushbutton shall be fully ADA accessible from a paved or concrete surface. The pole shall have a square aluminum base and cap.

The sign shall be installed on a concrete foundation with J-Bolt anchors. Foundation and anchors shall be installed for the load and soil type.

The sign shall include a NEMA 3R control cabinet mounted to the pole. The cabinet shall be vented with screens and drains and include a stainless steel hinge and tamper-resistant lock.

A controller shall be included in the control cabinet to drive the sign LEDs. The controller shall include programmable options for the LEDs, including, but not limited to, time of day, LED brightness levels, LED activation time, and two inputs and outputs. A clock with battery backup shall be included.

A 55W solar panel shall be mounted on the pole with a 48aH battery pack. A charge controller shall be included to charge and protect the batteries from electrical disturbances. The batteries shall be 12V, gelled-electrolyte and fused for short circuit protection. The batteries and charge controller shall be independently replaceable and installed in the control cabinet.

#### Method of Measurement

The item will be measured per EACH for the entire product and installation including the foundation, pole, sign, LED lights, pedestrian push-button, solar power equipment, battery and all other hardware and accessories as needed for the SOLAR-POWERED ILLUMINATED SIGN, LED.

#### Basis of Payment

This work shall be paid for at the Contract unit price per each for SOLAR-POWERED ILLUMINATED SIGN, LED.

### **PLANTER**

#### Description.

This work shall consist of furnishing and installing per manufacturers recommendation the following:

Planter Construction: Match existing

1. Model: Match existing
2. Height: Match existing
3. Diameter: Match existing
4. Weight: Match existing
5. Design: Tapered with rolled rim.
6. Material Finish: Match existing
7. Installation: Surface mount, no anchors.

METHOD OF MEASUREMENT: Furnishing and installing ornamental planters will be measured in place for each PLANTER.

BASIS OF PAYMENT: Furnishing and installing ornamental planters will be paid for at the contract unit price per EACH for PLANTER.

### **REMOVE EXISTING PARKING BLOCKS**

#### Description

This work shall consist of the removal and the disposal of the parking blocks, at the locations shown in the plans, as supplemented herein, and as directed by the Engineer. The steel pins that anchor the existing parking blocks shall be pulled out and disposed of.

#### Basis of Payment

This work will be paid for at the contract unit price per each for REMOVE EXISTING PARKING BLOCKS, which price shall include removal of parking blocks and pins to an approved disposal site.

### **BEDDING MATERIAL, SPECIAL**

#### Description.

This work shall be in accordance with the details and information shown on the plans for the HMA setting bed under the speed table.

#### Method of Measurement.

This work will be measured for payment per cubic yard.

#### Basis of Payment.

This work will be paid for at the Contract unit price per cubic yard for BEDDING MATERIAL, SPECIAL. The unit price shall include all equipment, materials and labor required to furnish and construct this item.

### **STONE BEDDING MATERIAL**

#### Description.

This work shall be in accordance with the details and information shown on the plans for the Stone Bedding material.

#### Method of Measurement.

This work will be measured for payment per ton.

#### Basis of Payment.

This work will be paid for at the Contract unit price per ton for STONE BEDDING MATERIAL. The unit price shall include all equipment, materials and labor required to furnish and construct this item.

## **BRICK PAVER BANDING**

Description: This work shall include excavation, subgrade preparation, base, underlayment, jointing, setting bed, pavers and all required material as called for in the plans and details and any equipment needed to install. This work shall be in accordance with Sections 351, 424 and 1041 of the Standard Specifications.

General: The brick paving contractor shall provide evidence that his firm has specific experience meeting the following criteria:

1. Experience installing pavers using IDOT CA-16 and sand bedding bed method with a minimum of 20,000 square feet per year for the past five (5) years.
2. The same experienced supervisory personnel will be made available for this project. The brick paving contractor shall submit a list of complete projects setting forth description, area, location and references with addresses and phone numbers.

### Submittals:

Samples: Submit samples for each paver type required, exhibiting the full range of color characteristics expected.

1. For Brick Paver Banding, submit a minimum of 3 each 4" inches x 8" inches x 2- 1/4" in size, in each color and finish specified.
2. In the case of more variegated stones, color photos shall be submitted in addition to the number of samples to show the full range of color and markings to be expected.
3. Jointing: Permeable Paver Aggregate: submit a range of color samples as specified.

Mockups: Build mockup of typical areas as shown on Drawings.

1. Size:  
2' feet x 6' feet for Brick Paver Banding, ('A1') & ('A2')
2. Color consistency: demonstrate color consistency with mockup; color range shall not exceed range of color established by samples.
3. Include permeable paver aggregate joints installed as depicted on the drawings.
4. Mockups may become part of the completed Work if approved at time of Substantial Completion.

### Materials:

BRICK PAVER BANDING brick shall be clay brick pavers manufactured by Pinehall or the manufacturers listed below. Color shall consist of Pinehall Evanston Mix or similar. Pavers with extensive breakage of corners shall be rejected. Pavers shall be laid as indicated on the plan. Final colors shall be approved by the City of Evanston prior to work.

Drawing Reference: Brick Paver Sidewalk ('A1') and  
Brick Paver Sidewalk - Vehicular ('A2')

1. Manufacturer: Pine Hall Brick Co., [www.pinehallbrick.com](http://www.pinehallbrick.com),  
Model: Evanston Mix or
2. Manufacturer: Whitacre Greer, [www.wgpaver.com](http://www.wgpaver.com), Model:  
North Shore Blend or
3. Manufacturer: Glen Gery, [www.glengery.com](http://www.glengery.com), Model:  
Lawrenceville Full Range 2-1
  - a. Size:
    - i. 4"w x 8"d x 2-1/4"ht Brick Paver Sidewalk ('A1')
    - ii. 4"w x 8"d x 2-3/4"ht Brick Paver Vehicular ('A2')

Bedding:

The bedding component shall follow what is shown on the plans and details. For BRICK PAVER BANDING the bedding shall conform with Section 351 of the Standard Specifications for Aggregate Base Course.

Jointing:

The jointing component shall meet test ASTM C33. Contractor shall sweep larger particles away from joints until the joints are completely full. Finer sand which doesn't meet test ASTM C33 shall not be used to fill joints.

Base Component:

Portland Cement Concrete with a Subbase Granular Material which shall be in accordance with Section 351 and Section 424 of the Standard Specifications and the special provision for PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH SPECIAL.

Construction: Various pavers shall be installed as shown on the details shown in the plans and per the respective manufacturer's recommendations. No paver setting work shall be performed when the underlayment has free moisture, ice or snow or when the underlayment is frozen. Concrete underlayment shall be sound, clean and free from debris and materials or substances that will hinder the bond of the setting bed. The top surface of the concrete underlayment slab shall not vary more than one fourth (1/4) inch of its proposed elevation. See detail plans for cross section of typical paver system.

To reduce dust during paver installation, pavers shall only be cut using wet saws. No dry cutting is permitted. Cut pavers shall be placed in areas shown on the details in the plans. "L" shaped pavers shall be avoided where possible. Pavers shall be cut radially when joints between pavers on curves exceed 1/8 inch. Radial cut pavers shall be created by trimming both sides of pavers. Paver edgings shall be installed per manufacturer's recommendations.

Setting bed shall be protected from damage prior to setting pavers. Setting shall be done by competent workmen under adequate supervision, and in accordance with manufacturer's recommendations. Pavers with chips, cracks, or other structural or aesthetic defects or those rejected by the Engineer shall not be used. Pavers shall be set true to the required lines and grades in the pattern detailed on the Plans. Pavers shall be tightly butted. Joints between pavers shall be uniform and per manufacturer's recommendations. There shall be no raised edges, either pavers or materials adjacent to pavers, that could allow someone to trip. The tolerance for such edges shall be 0" - 1/16" maximum in range.

After a sufficient area of pavers has been installed, the pavers shall be compacted by running a mechanical vibratory compactor over the paved surface until the pavers are uniformly leveled, true to grade, and totally immobilized. Where required, pavers shall be accurately cut with a masonry or concrete saw. Cut edges shall be plumb and straight. Scoring and breaking shall not be acceptable. Joints between pavers shall be filled by sweeping sharp sand into the joints. When joints are filled, paver surfaces shall be swept clean of sand. Paver edgings shall be installed per manufacturer's recommendations.

After completion of the unit pavers, paver installation areas shall be thoroughly swept clean and surface shall be left unsoiled. Where required by the Engineer, surface shall be cleaned with water or an approved cleaner.

Measurement and Payment: This work will be measured for payment in place and the area computed in square feet. This work will be paid for at the contract unit price per SQUARE FOOT for BRICK PAVER BANDING.

## **TRASH RECEPTACLE**

### Description.

This work shall consist of furnishing and installing per manufacturers recommendation the following:

1. Manufacturer: Global Industrial, [www.globalindustrial.com](http://www.globalindustrial.com); Model: #T97237726BK or
2. Manufacturer: Victor Stanley, Inc., [www.victorstanley.com](http://www.victorstanley.com); Model: #RB-36 or
3. Manufacturer: Wausau Tile, [www.wausautile.com](http://www.wausautile.com); Model: #MF3212

Support Frames: Steel; welded.

Trash Receptacles:

1. Capacity 36-gallon
2. Dimensions: 36"H x 28"Dia
3. Design: Fully welded durable receptacle has steel body that is reinforced with circular bands and rolled edges. Endures extreme climate conditions. Flat bar

- steel and polyester powder coat finish deters graffiti and vandalism. Includes anchor kit and black plastic liner.
4. Installation Method: surface mount.

Material Finish: Powder coated black

Options: Anchor kit and black rigid plastic liner

METHOD OF MEASUREMENT: Furnishing and installing trash receptacles and all associated equipment and materials will be measured in place for each receptacle.

BASIS OF PAYMENT: Furnishing and installing trash receptacles will be paid for at the contract unit price per EACH for TRASH RECEPTACLES.

## **BOLLARD REMOVAL**

### Description

This work shall consist of the removal of bollards and any associated foundation in accordance with the details and at the locations noted in the plans. Any voids or holes from the removal process shall be backfilled with suitable material approved by the Engineer. The surface of the filled void or hole shall be treated to match the surrounding area. All debris resulting from the removal process shall be removed and disposed of by the Contractor.

### Method of Measurement

The item will be measured per EACH and shall include all labor, materials, and equipment necessary to complete the work as indicated in this Special Provision and details in the plans.

### Basis of Payment

This work will be paid for at the contract unit price per each for BOLLARD REMOVAL, which price shall include removal of the bollard and any associated foundation, and repair to the work area.

## **TREE GRATES**

### Description.

This work shall consist of furnishing the following:

1. Manufacturer: Neenah Foundry, [www.nfco.com](http://www.nfco.com), Model: R-8742-A or
2. Manufacturer: Reliance Foundry, [www.reliance-foundry.com](http://www.reliance-foundry.com); Model: #R-8713 or
3. Manufacturer: Iron Age Designs, [www.ironagegrates.com](http://www.ironagegrates.com), Model: DIX60diaI99TG

Tree Grate Construction:

1. Size: 60" x 60"
2. Tree Opening: 18" diameter, expandable
3. Weight: 418 lbs. per set
4. Installation Method: Support frames to be cast into concrete with tree grate.

Material Finish: Natural Cast Iron

Comply with installation requirements in Section 02750 – Concrete Paving.

Surface of tree grate to be flush with surrounding finish surface. Variation from flush not to exceed plus or minus 1/8 inch.

METHOD OF MEASUREMENT: Furnishing and installing tree grates and frames and all associated equipment and materials will be measured in place for Tree Grates. The cost of pea gravel infill shall be included in the cost of Trees Grates.

BASIS OF PAYMENT: Furnishing and installing tree grates and frames and pea gravel will be paid for at the contract unit price as EACH for all TREE GRATES.

## **BRICK PAVERS**

### Description.

This work shall be in accordance with the details and information shown on the plans for the brick pavers at the speed table.

### Method of Measurement.

This work will be measured for payment per square foot.

### Basis of Payment.

This work will be paid for at the Contract unit price per square foot for BRICK PAVERS. The unit price shall include all equipment, materials and labor required to furnish and construct this item.

## **STUMP REMOVAL ONLY**

### Description.

This item of work shall consist of the removal and satisfactory disposal of tree, or any other vegetated, stumps. All excess chips and debris from this operation shall be removed and disposed of outside the limits of the contract. This work will be done in accordance with Section 201 of the Standard Specifications for tree removal, except that stumps are to be removed a minimum of six (6) inches below the natural surface of the ground

### Method of Measurement.

STUMP REMOVAL ONLY will be measured for payment in units in accordance with Section 201 of the Standard Specifications as defined under 201.10(b).



Basis of Payment.

Stump removal shall be paid for at the contract unit price per unit diameter for STUMP REMOVAL ONLY measured as specified herein across the top of the stump. All references to tree removal in the Standard Specifications shall include the item STUMP REMOVAL ONLY.

**REMOVE EXISTING BRICK PAVERS**

Description.

This work consists of the full depth removal of brick sidewalk at locations as shown on the plans. The work shall be done in accordance with Section 440 of the Standard Specifications. Prior to removal operations, the sidewalk shall be sawcut to avoid cracking adjoining sections.

Basis of Payment

This work shall be paid for at the Contract unit price per square foot for REMOVE EXISTING BRICK PAVERS, which price shall include labor, equipment, and disposal of unsuitable material outside the right-of-way.

**SIDEWALK REMOVAL (SPECIAL)**

Description.

This item of work shall consist of the removal and satisfactory disposal of existing sidewalk surface and corresponding waterproofing membrane in vaulted areas at locations shown and as directed by the City in accordance with details in the plans. Vault structural components including the structural ceiling below the sidewalk shall not be disturbed.

General Requirement.

The Contractor shall enter the vaulted area before removal operations and determine which utilities, if any, are located in this area. The Contractor must contact the property owner and the utility before work begins. The Contractor during their removal operation, must take care not to damage the utilities. It shall be the Contractor's responsibility to protect all existing utilities from damage by whatever means is required.

The Contractor shall remove the sidewalk portion of the vault only. Care shall be taken not to damage the existing structural components, and after sidewalk removal, the City will visually inspect the existing vault roof and beams, building wall and curb wall of the vault to ensure compliance. If the Contractor damages any structural component or removes or damages the existing sidewalk outside the limits designated by the City for removal and replacement, he will be required to repair that portion at its own expense and to the satisfaction of the City.

The existing sidewalk and all embedded reinforcing, conduit and waterproofing shall be removed and legally disposed of off the project site. Stockpiling of removed material will not be

allowed. Work in this area shall be in accordance to Article 107.19 of the Standard Specifications.

Special care shall be taken when working near existing building walls. When utilizing hammers to perform topping slab removal, the hammers shall be limited to 15lb chipping hammers or hand tools. Particular care shall be exercised at the bottom of the slab to avoid breakage beyond the existing water proofing membrane. When jack hammers are utilized to remove the remaining concrete, the hammers shall not be heavier than the nominal 45lb class. More powerful impact equipment will not be allowed to perform this removal. Small tools must remove the vaulted walk within 12 inches and under the façade. This work shall be considered incidental to this item.

Method of Measurement.

SIDEWALK REMOVAL, SPECIAL will be measured for payment in square feet of surface to be removed.

Basis of Payment.

This work under this item will be paid for at the Contract unit price per square foot for SIDEWALK REMOVAL, SPECIAL, which price will also include the removal of the sidewalk reinforcing, waterproofing, and protection of existing utilities.

**ABANDON AND FILL EXISTING STORM SEWER**

Description.

This work shall be in accordance with the “Standard Specifications for Water and Sewer Construction in Illinois, Current Edition” and consists of the abandonment and filling of existing storm sewer at the locations shown on the plan or as directed by the Engineer. Work includes any necessary saw-cutting, removal and disposal of existing pavements; excavation; removal and disposal of waste excavated materials; removal of water from the trench, temporary shut-downs; bypass pumping of storm water as needed; removing portions of existing storm sewer; capping or plugging abandoned storm sewer; and filling excavations with compacted granular backfill materials.

Plug the ends of storm sewer pipes to be abandoned with concrete or brick and mortar plugs at least 18 inches long. When within 10 feet of or below any proposed pavement, fill the entire inside diameter of the pipes with controlled low strength material (flowable fill).

Method of Measurement.

This work will be measured for payment per foot, for each segment of storm sewer to be abandoned and filled.

Basis of Payment.

This work will be paid for at the Contract unit price per linear foot for ABANDON AND FILL EXISTING STORM SEWER. The unit price shall include all equipment, materials and labor required to furnish and construct this item.

### **MEMBRANE WATERPROOFING (SPECIAL)**

#### Description.

This work shall be in accordance with the details and information shown on the plans.

#### Method of Measurement.

This work will be measured for payment per square foot.

#### Basis of Payment.

This work will be paid for at the Contract unit price per square foot for MEMBRANE WATERPROOFING (SPECIAL). The unit price shall include all equipment, materials and labor required to furnish and construct this item.

### **CONCRETE CURB (SPECIAL)**

#### Description.

This work consists of constructing a concrete curb and base material adjacent to the permeable pavers as shown on the plans. The work shall be done in accordance with Section 606 of the Standard Specifications.

#### Basis of Payment.

This work shall be paid for at the Contract unit price per foot along the face of the curb for CONCRETE CURB (SPECIAL), which price shall include the base material, labor, equipment, and disposal of unsuitable material outside the right-of-way.

### **COMBINATION CONCRETE CURB AND GUTTER, TYPE B (SPECIAL)**

#### Description.

This work shall be in accordance with the applicable portions of Section 508 and 606 of the Standard Specifications, Highway Standard Detail 606001 and the details included in the plans.

#### Method of Measurement.

This work will be measured for payment per linear foot, per Section 606.

Basis of Payment.

This work will be paid for at the Contract unit price per linear foot for COMBINATION CONCRETE CURB AND GUTTER, TYPE B (SPECIAL). The unit price shall include all equipment, materials and labor required to furnish and construct this item.

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

Delete Article 701.20 and replace it with the following:

This work will be paid for at the Contract LUMP SUM price for TRAFFIC CONTROL AND PROTECTION, (SPECIAL). This lump sum price shall be payment in full for all materials, labor and equipment required for: handling, furnishing, transporting, installing, maintaining, relocating and removing all traffic control devices and signage required for to fully protect construction operations and the general public; including implementing any detour plans shown on the Drawings. This lump sum price shall also include all materials, labor and equipment required for: furnishing, installing, relocating and removing steel plates and other temporary bridging over trenches, auger pits, receiving pits and other areas disturbed by construction activities. The salvage value of the materials removed shall be reflected in the price bid for this Item. Progress payments for traffic control will be made in direct proportion to the value of work completed. Contractor shall also refer to the IDOT Standards included herein for additional traffic control measures. The Contractor is advised that specific liquidated damages apply for failure to maintain traffic control devices.

All TRAFFIC CONTROL AND PROTECTION (SPECIAL) shall include any and all items required for pedestrian traffic control, including the delivery, placement, maintenance, removal, and relocation of all pedestrian routes, temporary ramps, signage, barricades, and any other traffic control items required or as directed by the Engineer.

All TRAFFIC CONTROL AND PROTECTION (SPECIAL) shall include any and all items required for the detour setup, maintenance, and removal, including all signs and other items as shown on the plans, and any other traffic control items required or as directed by the Engineer.

**MAINTENANCE OF ACCESS TO ABUTTING PROPERTY**

Description.

This item of work under this item shall include furnishing all labor, materials, tools and equipment required for the Maintenance of Access to Abutting Property, including but not limited to the furnishing, transporting, placing, maintaining, removing, and disposing of all materials used for maintenance of access to abutting property during the construction of this property.

The Contractor shall deliver the construction demolition debris resulting from Maintenance of Access to Abutting Property to a recycling facility, recycling transfer station or other permitted waste hauling facilities, which accept construction and demolition debris for the transfer to a recycling facility.

General Requirements.

The Contractor shall at all times conduct the work in such a manner as to insure the least obstruction to vehicular and pedestrian traffic. The convenience of the general public and of

residents along the involved streets shall be provided for in an adequate and satisfactory manner as directed by the City.

The Contractor shall provide and maintain acceptable, temporary access from the street being improved to abutting side streets, alleys, driveways, parking lots, buildings, houses and/or other property where egress and ingress is required. The temporary access shall be provided using the various means listed below:

- Steel cover plates of the proper size and strength to span the work area.
- Wood ramps and boards with railing, spanning the work zone.
- Pedestrian barricades.
- Crushed stone.
- Or other means approved by the City.
- Temporary access shall meet ADA requirements.

When permanent access has been re-established, the materials used for temporary access shall be removed by the Contractor and shall become his property for disposal thereof. However, he may use the same material in other locations to provide temporary access if approved by and as directed by the City.

Additional, site cleanliness must be maintained at all times, both inside and outside the work zone areas.

#### Method of Measurement.

Any and all materials, labor and equipment required to provide temporary access as specified herein will not be measured for payment but the cost there of considered incidental to TRAFFIC CONTROL AND PROTECTION (SPECIAL).

### **UNDERPASS LUMINAIRE (SPECIAL)**

#### Description.

This item of work shall consist of furnishing and installing per manufacturer's recommendation, underpass units as described in the plans. The lighting unit shall consist of a die-cast aluminum, powder-coated housing with heat sink fins and a wall mount plate. The LED drive should be located separately from the light engines for thermal isolation. The luminaire shall be an 80W LED luminaire at 3000K, Type III with an acrylic lens. This item also includes wiring and fuses/fuse holders.

#### Materials

All materials shall be in accordance with the contract plan drawings and applicable portions of Sections 1065, 1066, 1067, and 1069 of the Standard Specifications.

#### Construction Requirements

All work shall be installed in accordance with Sections 821 and 830 of the Standard Specifications. The Contractor shall be responsible for coordinating the proposed bolt circle dia., anchor bolt size, and handhole orientation for the proposed light poles installed.

Work to be performed under this pay item is indicated in contract plan drawings and shall be in conformance with NEC, IDOT and local ordinances.

Guarantee

The Vendor shall provide a written guarantee for materials, and workmanship for a period of 6 months after final acceptance of the lighting system.

Documentation

All instruction sheets required to be furnished by the manufacturer for materials and supplies and for operation of the equipment shall be delivered to the Engineer.

The manufacturer shall have been incorporated for at least five years and shall have at least five years in the design and manufacturing of roadway lighting. The manufacturer shall provide evidence of financial strength to finance the production of the project by submitting the name of at least three projects completed in the previous calendar year of greater than \$100,000 each. All steel used in the project shall be certified to be provided domestically, and all fixture components used shall be manufactured domestically.

Basis of Payment

This work shall be paid for at the Contract unit price per each UNDERPASS LUMINAIRE (SPECIAL).

**LIGHT POLE, SPECIAL**

Description.

This item of work shall consist of furnishing and installing per manufacturer's recommendation, Tallmadge lighting units as described in the plans. The lamppost shall consist of a one-piece, cast ductile iron lamppost with a 3 and 4 bolt base pattern design and an Edgewater 80W LED luminaire at 3000K, Type III with LED grade frosted acrylic lens finish painted powder coat river texture black. This item also includes pole wiring, and fuses/fuse holders.

Materials

All materials shall be in accordance with the contract plan drawings and applicable portions of Sections 1065, 1066, 1067, and 1069 of the Standard Specifications.

Construction Requirements

All work shall be installed in accordance with Sections 821 and 830 of the Standard Specifications. The Contractor shall be responsible for coordinating the proposed bolt circle dia., anchor bolt size, and handhole orientation for the proposed light poles installed.

Work to be performed under this pay item is indicated in contract plan drawings and shall be in conformance with NEC, IDOT and local ordinances.

Guarantee

The Vendor shall provide a written guarantee for materials, and workmanship for a period of 6 months after final acceptance of the lighting system.

Documentation

All instruction sheets required to be furnished by the manufacturer for materials and supplies and for operation of the equipment shall be delivered to the Engineer.

The manufacturer shall have been incorporated for at least five years and shall have at least five years in the design and manufacturing of roadway lighting. The manufacturer shall provide evidence of financial strength to finance the production of the project by submitting the name of at least three projects completed in the previous calendar year of greater than \$100,000 each. All steel used in the project shall be certified to be provided domestically, and all fixture components used shall be manufactured domestically.

Basis of Payment

This work shall be paid for at the Contract unit price per each LIGHT POLE, SPECIAL.

**TEMPORARY LIGHTING SYSTEM**

Description.

This item of work shall consist of the equipment, material and labor to install a temporary lighting system as described in the plans and per IDOT standard. The temporary lighting system shall consist of 30' wood poles with LED cobra head fixtures (with shields in residential areas) and aerial wiring. Power for the temporary lighting shall be provided by the existing lighting system.

Basis of Payment

This work shall be paid for at the Contract unit price lump sum for TEMPORARY LIGHTING SYSTEM.

**MODIFY EXISTING LIGHTING CONTROLLER**

Description

This item of work shall consist of the equipment, material and labor to modify the existing lighting controller. The contractor shall install and wire new 15A, 1P breakers to the existing controller as shown in the contract plans. The contractor shall also install raceways for the new unit duct as necessary.

Basis of Payment

This work shall be paid for at the contract unit price per each MODIFY EXISTING LIGHTING CONTROLLER.

## **BENCHES**

### Description.

This work shall consist of furnishing and installing per manufacturers recommendation the following:

1. Manufacturer: Landscape Forms, [www.landscapeforms.com](http://www.landscapeforms.com), Model: Plainwell-Center Armrest or
2. Manufacturer: Victor Stanley, Inc., [www.victorstanley.com](http://www.victorstanley.com); Model: # FMBF-324-Center Armrest or
3. Manufacturer: DuMor, [www.dumor.com](http://www.dumor.com); Model: #160-Center Armrest

Frame Material: Solid cast aluminum – Black powder coat

- A. End supports with integral armrests are sand cast aluminum. Seat straps, back straps, and center straps are sand-cast aluminum. Leg section is 1-1/2" x 2" oval shape. End supports are connected by two A36 steel channels 1-1/2" x 9/16" x 3/16" fastened with black Magni-coated steel cap screws.

Seat: Extruded aluminum boards – Black powder coat

1. Material: Aluminum – ASTM B221 extruded aluminum boards have end caps. Aluminum boards and end caps are clear anodized (202-R1) and powder coated to match frame color.
2. Color: Black
3. Overall Height: 32"
4. Overall Width: 73-1/4"
5. Overall Depth: 26"
6. Arms: Side and (1) Center arm
  - a. Arm Material: Solid cast aluminum
7. Weight: 162 lbs.

Mounting: Surface mount

METHOD OF MEASUREMENT: Furnishing and installing benches will be measured in place for each bench.

BASIS OF PAYMENT: Furnishing and installing benches will be paid for at the contract unit price per EACH for BENCHES.

## **BICYCLE RACKS**

### Description.

This work shall consist of furnishing and installing per manufacturers recommendation the following:

1. Manufacturer: MADRAX, [www.madrax.com](http://www.madrax.com), Model: Square U Bike Rack -10- 4 Loop



- (Product: CUSTOM UX200-8), 10- 3 Loop MADRAX brand bicycle racks (Product: CUSTOM UX200-6) and 15- 2 Loop MADRAX brand bicycle racks (Product: CUSTOM UX200-4), or
2. Manufacturer: DuMor, [www.dumor.com](http://www.dumor.com); Model: #291-00/S-2 – 10 4-Loop, 10- 3- Loop, 15- 2-Loop, or bicycle racks, or
  3. Manufacturer: Reliance Foundry, [www.reliance-foundry.com](http://www.reliance-foundry.com); Model: #R-8238-SS - 10 4- Loop, 10- 3-Loop, 15- 2-Loop, or bicycle racks

**METHOD OF MEASUREMENT:** Furnishing and installing bicycle racks will be measured in place for each bicycle rack.

**BASIS OF PAYMENT:** Furnishing and installing bicycle racks will be paid for at the contract unit price per EACH for BICYCLE RACKS.

## **BOLLARDS**

### **Description.**

This work shall consist of furnishing and installing per manufacturers recommendation the following:

1. Manufacturer: Reliance Foundry Co. Ltd., [www.reliance-foundry.com](http://www.reliance-foundry.com); Model: R-7591 or
2. Manufacturer: Iron Age Designs, [www.ironagegrates.com](http://www.ironagegrates.com), Model: MSBO351 or
3. Manufacturer: DuMor, [www.dumor.com](http://www.dumor.com); Model: #451

### **Bollard Construction:**

1. In-Ground
2. Height: 32" (81.3 cm)
3. Diameter: 6 in. (15.2 cm)
4. Weight: 77 lbs (34.9 kg)
5. Design: Tapered and fluted, with round finial and flat disc top.
6. Color Coating:
  - a. Type: Polyester powder coat over epoxy primer
  - b. Color: Black textured semi-gloss
7. Installation Method: in-ground - 4' burial depth x 24" diameter concrete footing
  - a. Fixed, new concrete, anchor.

**METHOD OF MEASUREMENT:** Furnishing and installing bollards will be measured in place for each bollard.

**BASIS OF PAYMENT:** Furnishing and installing bike racks will be paid for at the contract unit price per each for BOLLARDS.

## **STEEL RAILING, (SPECIAL)**

### Description.

This work shall consist of furnishing and installing per manufacturers recommendation the following:

Acceptable Manufacturer:

Substitutions: Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

Commercial Ornamental Welded Steel Railings:

1. Product: Per Details

Materials: Pre-welded Iron railing panels.

Rails and Pickets: Grade A cold rolled steel formed and welded tubing conforming to ASTM A500/A500M-13 with G-60 zinc coating (0.60 oz/ft<sup>2</sup> or 0.27 kf/M<sup>2</sup>) on both inside and outside surfaces in accordance with ASTM A123/A123M-13 hot dipped electroplating process.

Tests: ASTM E935-13e1 testing (Methods A, B, C, and D) and loading testing in accordance with ICC-ES AC273.

Components:

Rails: 16 gauge (1.6 mm) wall thickness by 1.25 inch (31.7 mm) square galvanized welded steel tubing with factory applied powder-coated finish.

Pickets: 19 gauge (1.1 mm) wall thickness by 0.75 inch (19 mm) square galvanized welded steel tubing with powder-coated factory finish.

Posts: 13 gauge (2.5 mm) 2 inch (51 mm) or 15 gauge (1.8 mm) 3 inch (76 mm) square formed and welded galvanized steel tubing with welded base and powder-coated factory finish.

Brackets: Bracket shall come from same manufacturer as railings and posts. Brackets shall have powder-coated factory finish.

Fasteners: All nuts, bolts, sheet metal screws, wood screws and washers shall be stainless steel.

Metal rail sections shall comply with all requirements indicated for materials, thickness, design, and details for construction.

Welded connections shall comply with AWS D1.1/D1.1M:2010 standards for recommended practice in shop welding. Welds behind finished surfaces shall be without distortion or discoloration of exposed side.

Components shall be accurately cut, drilled, and/or tapped to receive hardware, fasteners, and accessories.

Finish:

- B. Metal parts shall be assembled and finished individually prior to shipment.
- C. Following cleaning and pretreatment parts and welded assemblies shall be electro-coated.
- D. Electro coating of parts and welded assemblies shall be a two-component cathodic electrodeposition primer with high corrosion protection followed by a sealing and drying process.

- E. Immediately after sealing, a two-step powder finish coating shall be applied by the electrophoresis and electrostatic spray process.
- F. Electro coating and Powder Coating of parts and welded assemblies shall be done by a certified powder coater.

Fasteners:

- G. Fasteners used for mounting metal parts and welded assemblies shall be stainless steel as supplied by recommended railing supplier.
- H. Immediately after cleaning and drying, a two-step coating shall be applied by the electrophoresis and electrostatic spray process. This consists of a thermosetting carboxyl polyester resin top coat with a minimum dry film thickness of 60 to 80 microns.

METHOD OF MEASUREMENT: Furnishing and installing STEEL RAILING (SPECIAL) will be measured in linear feet.

BASIS OF PAYMENT: Furnishing and installing the railing will be paid for at the contract unit price per LINEAR FOOT for STEEL RAILING (SPECIAL).

### **CONSTRUCTION LAYOUT**

The Contractor shall provide all construction layout for this project. The Engineer will provide electronic CAD files and vertical and horizontal control points only.

The Contractor shall provide field forces, equipment and material to provide all layout necessary for the construction of this project. Lines and grade of pavement, curb and all other features shall be set at sufficient intervals to assure substantial conformance to plan line and grade.

The Contractor shall be responsible for having the finished work substantially conform to the lines, grades, and elevations and dimensions called for in the plans or included in the CAD files. Any inspection or checking of the Contractor's layout by the Engineer and the acceptance of all or any part of it shall not relieve the Contractor of his/her responsibility to secure the proper dimension, grades and elevations of the several parts of the work. The Contractor shall exercise care in the preservation of all control points and shall have them reset at his/her expense when any are damaged, lost, displaced or removed or otherwise obliterated.

#### Responsibility of the Engineer

- a. The Engineer will locate and reference the control points within or adjacent to the project limits.

Locating and referencing the centerline of survey will consist of establishing and referencing the control points of the centerline of surveys such as PC's, PT's and as many POT's as are necessary to provide a line of sight.

- b. The Engineer will establish benchmarks along the project.

- c. The Engineer will make random checks of the Contractor's staking to determine if the work is in substantial conformance with the plans. Where the Contractor's work will tie into work that is being or will be done by others, checks will be made to determine if the work is in conformance with the proposed overall grade and horizontal alignment.
- d. Where the Contractor, in providing layout, discovers discrepancies, the Engineer will check to determine their nature and make whatever revisions are necessary in the plans.
- e. It is not the responsibility of the Engineer, except as provided herein, to check the correctness of the Contractor's stakes; however, any errors that are apparent will be immediately called to the Contractor's attention and s(he) shall be required to make the necessary correction before the stakes are used for construction purposes.
- f. The Engineer will provide CADD files which will be the basis for all the required layout.

#### Responsibility of the Contractor

- a. The Contractor shall establish from the given survey points and benchmarks all the control points necessary to construct the individual project elements. S(he) shall provide the Engineer adequate control in close proximity to each individual element to allow adequate checking of construction operations. This includes, but is not limited to, line and grade stakes, line and grade nails in form work, and/or filed or etched marks in substantially completed construction work.

It is the Contractor's responsibility to tie in centerline control points in order to preserve them during construction operations.

- b. The Contractor shall provide all necessary layout for all improvements constructed as part of this project. This will include all pavements, curbs, light poles, traffic signal poles, all foundations, structures, tree grates, vegetation and any other associated improvement.
- c. All work shall be in accordance with normally accepted self-checking surveying practices. Field notes shall be kept in standard survey field notebooks and those books shall become the property of the Engineer at the completion of the project. All notes shall be neat, orderly and in accepted form. If at any time during construction, discrepancies are identified they shall be promptly brought to the attention of the Engineer.

This work will be paid for at the contract lump sum price for CONSTRUCTION LAYOUT, which prices shall be payment in full for all services, materials, and labor and other items required to complete the work.

#### **TEMPORARY INFORMATION SIGNING**

Description: This work shall consist of furnishing, installing, maintaining, relocating for various states of construction and eventually removing temporary informational signs. Included in this

item may be ground mount signs, skid mount signs, truss mount signs, bridge mount signs, and overlay sign panels which cover portions of existing signs.

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

<b>Item</b>	<b>Article/Section</b>	
a.) Sign Base (Notes 1 & 2)	1090	
b.) Sign Face ( Note 3)	1091	
c.) Sign Legends		1092
d.) Sign Supports		1093
e.) Overlay Panels (Note 4)	1090.01	

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

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

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

Note 4. The overlay panels shall be 0.08 inch thick.

### **General Construction Requirements**

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

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

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

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

**Method of Measurement:** This work shall be measured for payment in square feet edge to edge (horizontally and vertically).

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

**Basis of Payment:** This work shall be paid at the contract unit price per square foot for TEMPORARY INFORMATION SIGNING, which price shall be full compensation for all labor, equipment and materials required for performing the work as herein specified.

## **PARKING METER POSTS TO BE REMOVED**

### Description:

This item of work shall consist of the equipment, material, and labor to remove parking meter post and foundation as described in the plans. The City of Evanston to remove the parking meter heads prior to Contractor taking post and foundations out.

### Method of Measurement

This work will be measured per each for removal of parking meter post including the foundation.

### Basis of Payment

This work shall be paid for at the Contract unit price per each PARKING METER POSTS TO BE REMOVED.

## **STORM SEWER (WATER MAIN QUALITY)**

### Description:

This work shall consists of constructing storm sewers to meet water main standards at locations specified on the Plans and where the sewers are parallel to the water main with less than the required minimum horizontal separation from water main and/or water service lines as required by the IEPA.

### General:

The work shall be performed in accordance with applicable parts of Section 550 of the IDOT Standard Specifications, 2016 edition, applicable sections of the current of the IEPA Regulations (Title 35 of the Illinois Administrative Code, Subtitle F, Chapter II, Section 653.119), the applicable sections of the current edition of the "Standard Specifications for the Water and Sewer Main Construction in Illinois", and as herein specified.

The sewer pipe needs to be water works grade 150 psi pressure rated pipe meeting AWWA Standards and pressure tested to ensure water tightness before backfilling.

### Material:

Storm sewers meeting water main requirements shall be constructed of Ductile Iron. The ductile iron pipe shall meet the requirements of ANSI A 21.51 (AWWA C151), class or thickness design per ANSI A 21.50 (AWWA C150), seal coated and/or cement lined per ANSI A 21.4 (AWWA C104) with mechanical or rubber (slip seal or push on) joints per AWWA C111 and C600.

### Measurement:

Storm Sewer (Water Main Requirements) will be measured for payment in place in feet. The measurement shall be according to Article 550.09 of the "Standard Specification".

### Basis of Payment:

This work will be paid for at the Contract unit price per linear foot for STORM SEWER (WATER MAIN QUALITY) of the diameter and type specified. The unit price shall include all equipment, materials and labor required to furnish and construct this item.

## **SAW CUTS**

The Contractor shall full-depth saw cut for the removal of existing curb, sidewalk, all structure work, and for all pavement patches. The concrete saw shall be equipped with a diamond blade of sufficient size to saw pavements full-depth and be capable of accurately maintaining cutting depth. All saw cuts shall be parallel or perpendicular to the curb & gutter, edge of sidewalk, or the edge of pavement, with straight, clean, edges, to the satisfaction of the ENGINEER. This item shall be included with curb & gutter, sidewalk, structure work, and pavement removal. The slurry resulting from the saw cutting work shall be immediately washed away using water to prevent tracking by vehicles or pedestrians to the satisfaction of the ENGINEER.

When removing pavement, curb and gutter, shoulder, and/or any other structures, the use of any type of concrete breakers which might damage the underground public or private utilities or property will not be permitted. Pavement openings must be initiated with hydraulic impact/air hammers and the use of excavator buckets to strike and break pavement is strictly prohibited and will result in an immediate deficiency deduction.

Saw cuts for all work will not be measured for payment and shall be considered as included in the related contract pay item. No separate payment will be made for saw cuts.

If additional surface is damaged or removed due to negligence on the part of the Contractor, the additional work will not be measured for payment but shall be done at the Contractor's expense. It is Contractor's responsibility to determine the thickness of the existing pavement and whether or not it contains reinforcement.

## **PLANTING WOODY PLANTS**

This work shall consist of planting woody plants as specified in Section 253 of the Standard Specifications with the following revisions:

### **Delete Article 253.03 Planting Time and substitute the following:**

Spring Planting. This work shall be performed between March 15th and May 31st except that evergreen planting shall be performed between March 15th and April 30th in the northern zone.

### **Add the following to Article 253.03 (a) (2) and (b):**

All plants shall be obtained from Illinois Nurserymen's Association or appropriate state chapter nurseries. All trees and shrubs shall be dug prior to leafing out (bud break) in the spring or when plants have gone dormant in the fall, except for the following species which are only to be dug prior to leafing out in the spring:

- Red Maple (*Acer rubra*)
- Alder (*alnus spp.*)
- Buckeye (*Aesculus spp.*)
- Birch (*Betulus spp.*)
- American Hornbeam (*Carpinus caroliniana*)

- Hickory (*Carya* spp.)
- Eastern Redbud (*Cercis* spp.)
- American Yellowwood (*Cladrastis kentuckea* spp.)
- *Corylus* (Filbert spp.)
- Hawthorn (*Crataegus* spp.)
- Walnut (*Juglans* spp.)
- Sweetgum (*Liquidambar* spp.)
- Tuliptree (*Liriodendron* spp.)
- Dawn Redwood (*Metasequoia* spp.)
- Black Tupelo (*Nyssa sylvatica*)
- American Hophornbeam (*Ostrya virginiana*)
- Planetree (*Platanus* spp.)
- Poplar (*Populus* spp.)
- Cherry (*Prunus* spp.)
- Oak (*Quercus* spp.)
- Willow (*Salix* spp.)
- Sassafras (*Sassafras albidum*)
- Baldcypress (*Taxodium distichum*)
- Broadleaf Evergreens (all)
- Vines (all)

Fall Planting. This work shall be performed between October 1 and November 30 except that evergreen planting shall be performed between August 15 and October 15.

Planting dates are dependent on species of plant material and weather. Planting might begin or end prior or after above dates as approved by the Engineer. Do not plant when soil is muddy or during frost.

**Add the following to Article 253.05 Transportation:**

Cover plants during transport to prevent desiccation. Plant material transported without cover shall be automatically rejected. During loading and unloading, plants shall be handled such that stems are not stressed, scraped, or broken and that root balls are kept intact.

**Delete the third sentence of Article 253.07 and substitute the following:**

Trees must be installed first to establish proper layout and to avoid damage to other plantings such as shrubs and perennials.

The Contractor shall be responsible for all tree, shrub, and vine layout. The layout must be performed by qualified personnel. The planting locations must be laid out as shown in the landscape plan. This will require the use of an engineer's scale to determine dimensions.

Tree and shrub locations within each planting area shall be marked with different color stakes/flags and labeled to denote the different tree and shrub species.

Shrub and vine beds will first be marked out with flags to delineate the perimeter of the planting bed. Once the planting bed has been approved by the Roadside Development Unit, the perimeter



shall be painted prior to the removal of the flags and turf. The removal of the existing turf will be by a method approved by the Engineer.

Prior to shrub, vine installation, all plants shall be placed above ground or planting locations clearly marked out.

All utilities shall have been marked prior to contacting the Roadside Development Unit. The Engineer will contact the Roadside Development Unit at (847) 705-4171 to approve the layout prior to installation. Allow a minimum of seven (7) working days prior to installation for approval.

**Delete the first paragraph to Article 253.08 Excavation of Plant Holes and substitute with the following:**

Protect structures, utilities, sidewalks, bicycle paths, knee walls, fences, pavements, utility boxes, other facilities, lawns and existing plants from damage caused by planting operations. Excavation of the planting hole may be performed by either hand, machine excavator, or auger.

The excavated material shall not be stockpiled on turf, in ditches, or used to create enormous water saucer berms around newly installed trees or shrubs. Remove all excess excavated subsoil from the site and dispose as specified in Article 202.03.

**Delete the second sentence of Article 253.08 Excavation of Plant Holes (a) and the third paragraph of Article 253.08(b) and substitute with the following:**

Excavation of planting hole width. Planting holes for trees, shrubs, and vines shall be three times the diameter of the root mass and with 45-degree sides sloping down to the base of the root mass to encourage rapid root growth. Roots can become deformed by the edge of the hole if the hole is too small and will hinder root growth.

Planting holes dug with an auger shall have the sides cut down with a shovel to eliminate the glazed, smooth sides and create sloping sides.

Excavation of planting hole depth. The root flare shall be visible at the top of the root mass. If the trunk flare is not visible, carefully remove soil from around the trunk until the root flare is visible without damaging the roots. Remove excess soil until the top of the root mass exposes the root collar.

The root flare shall always be slightly above the surface of the surrounding soil. The depth of the hole shall be equal to the depth of the root mass minus one (1) inch allowing the tree or shrub to sit one (1) inch higher than the surrounding soil surface for trees that have a 1-inch caliper or smaller. The depth of the hole shall be equal to the depth of the root mass minus two (2) inches allowing the tree or shrub to sit two (2) inches higher than the surrounding soil surface for trees that have a 2-inch caliper or larger.

For stability, the root mass shall sit on existing undisturbed soil. If the hole was inadvertently dug too deep, backfill and recompact the soil to the correct depth.

Excavation of planting hole on slopes. Excavate away the slope above the planting hole to create a flattened area uphill of the planting hole to prevent the uphill roots from being buried

too deep. Place the excess soil on the downslope of the planting hole to extend the planting shelf to ensure roots on the downhill side of the tree remain buried. The planting hole shall be three times the diameter of the root mass and saucer shaped. The hole may be a bit elongated to fit the contour of the slope as opposed to the typical round hole on flat ground.

Add backfill to create a small berm on the downhill portion of the planting shelf to trap water and encourage movement into the soil to increase water filtration around the tree. Smooth out the slope above the plant where you have cut into the soil so the old slope and the new slope transition together smoothly.

**Add the following to Article 253.08 Excavation of Plant Holes (b):**

When planting shrubs in shrub beds or vines in vine beds as shown on the plans or as directed by the Engineer, the Contractor will contact the Roadside Development Unit at (847) 705-4171 to approve the layout prior to removing the existing turf. The removal of the existing turf will be by a method approved by the Engineer. Areas damaged outside the delineated planting beds shall be restored at the Contractor's expense.

Spade a planting bed edge at approximately a 45-degree angle and to a depth of approximately 3-inches around the perimeter of the shrub bed prior to placement of the mulch. Remove any debris created in the spade edging process and dispose of as specified in Article 202.03.

**Delete Article 253.09 (b) Pruning and substitute with the following:**

Deciduous Shrubs. Shrubs shall be pruned to remove dead, conflicting, or broken branches and shall preserve the natural form of the shrub.

**Delete the third and fourth paragraphs of Article 253.10 Planting Procedures and Article 253.10 (a) and substitute the following:**

Approved watering equipment shall be at the immediate work site area and in operational condition PRIOR TO STARTING the planting operation and DURING all planting operations OR PLANTING WILL NOT BE ALLOWED.

All plants shall be placed in a plumb position and avoid the appearance of leaning. Confirm the tree is straight from two directions prior to backfilling.

Before the plant is placed in the hole, any paper or cardboard trunk wrap shall be removed. Check that the trunk is not damaged. Any soil covering the tree's root flare shall be removed to expose the crown prior to planting.

Check the depth of the root ball in the planting hole. With the root flare exposed, one-inch caliper trees shall be set one inch higher than the surrounding soil and two-inch and larger caliper trees shall be set two inches higher than the surrounding soil. The root flare shall always be slightly above the surface of the surrounding soil. For stability, the root ball shall sit on

existing undisturbed soil. If the hole was inadvertently dug too deep, backfill and recompact the soil to the correct depth.

After the plant is placed in the hole, all cords and burlap shall be removed from the trunk. Remove the wire basket from the top three quarters (3/4) of the root ball. The remaining burlap shall be loosened and scored to provide the root system quick contact with the soil. All ropes or twine shall be removed from the root ball and tree trunk. All materials shall be disposed of properly.

The plant hole shall be backfilled with the same soil that was removed from the hole. Clay soil clumps shall be broken up as much as possible. Where rocks, gravel, heavy clay, or other debris are encountered, clean topsoil shall be used. Do not backfill excavation with subsoil.

The hole shall be 1/3 filled with soil and firmly packed to assure the plant remains in plumb, then saturated with water. After the water has soaked in, complete the remaining backfill in 8" lifts, tamping the topsoil to eliminate voids, and then the hole shall be saturated again. Maintain plumb during backfilling. Backfill to the edge of the root mass and do not place any soil on top of the root mass. Visible root flare shall be left exposed, uncovered by the addition of soil.

**Add the following to Article 253.10 (b):**

After removal of the container, inspect the root system for circling, matted or crowded roots at the container sides and bottom. Using a sharp knife or hand pruners, prune, cut, and loosen any parts of the root system requiring corrective action.

**Delete the first sentence of Article 253.10(e) and substitute with the following:**

Water Saucer. All plants placed individually and not specified to be bedded with other plants, shall have a water saucer constructed of soil by mounding up the soil 4-inches high x 8-inches wide outside the edge of the planting hole.

**Delete Article 253.11 and substitute the following:**

Individual trees, shrubs, shrub beds, and vines shall be mulched within 48 hours after being planted. No weed barrier fabric will be required for tree and shrub plantings.

The mulch shall consist of wood chips or shredded tree bark free not to exceed two (2) inches in its largest dimension, free of foreign matter, sticks, stones, and clods. Mulch shall be aged in stockpiles for a minimum of four (4) months where interior temperatures reach a minimum of 140-degrees. The mulch shall be free from inorganic materials, contaminants, fuels, invasive weed seeds, disease, harmful insects such as emerald ash borer or any other type of material detrimental to plant growth. A sample must be supplied to the Roadside Development Unit for approval prior to performing any work. Allow a minimum of seven (7) working days prior to installation for approval.

Mulch shall be applied at a depth of 4-inches around all plants within the entire mulched bed area or around each individual tree forming a minimum 5-foot diameter mulch ring around each tree. An excess of 4-inches of mulch is unacceptable, and excess shall be removed. Mulch shall not be tapered so that no mulch shall be placed within 6-inches of the shrub base or trunk to allow the root flare to be exposed and shall be free of mulch contact.

Care shall be taken not to bury leaves, stems, or vines under mulch material. All finished mulch areas shall be left smooth and level to maintain uniform surface and appearance. After the mulch placement, any debris or piles of material shall be immediately removed from the right of way, including raking excess mulch out of turf areas in accordance with Article 202.03.

Pre-emergent Herbicide shall be used in the around the plant beds and tree rings after the placement of mulch. See specification for Weed Control, Pre-emergent Herbicide.

**Delete Article 253.12 Wrapping and substitute the following:**

Within 48 hours after planting, screen mesh shall be wrapped around the trunk of all deciduous trees with a caliper of 1-inch or greater. Multi-stem or clump form trees, with individual stems having a caliper of 1-inch or greater, shall have each stem wrapped separately. The screen mesh shall be secured to itself with staples or single wire strands tied to the mesh. Trees shall be wrapped at time of planting, before the installation of mulch. The lower edge of the screen wire shall be in continuous contact with the ground and shall extend up to a minimum of 36-inches or to the lowest major branch, whichever is less. Replacement plantings shall not be wrapped.

**Delete Article 253.13 Bracing and substitute with the following:**

Unless otherwise specified by the Engineer, within 48 hours after planting all deciduous and evergreen trees, with the exception of multi-stem or clump form specimens, over 8-feet in height shall require three 6-foot long steel posts so placed that they are equidistant from each other and adjacent to the outside of the ball. The posts shall be driven vertically to a depth of 18-inches below the bottom of the hole. The anchor plate shall be aligned perpendicular to a line between the tree and the post. The tree shall be firmly attached to each post with a double guy of 14-gauge steel wire. The portion of the wire in contact with the tree shall be encased in a hose of a type and length approved by the Engineer.

During the life of the contract, within 72 hours the Contractor shall straighten any tree that deviates from a plumb position. The Contractor shall adjust backfill compaction and install or adjust bracing on the tree as necessary to maintain a plumb position. Replacement trees shall not be braced.

**Delete the second sentence of the first paragraph of Article 253.14 Period of Establishment and substitute the following:**

This period shall begin in April and end in November of the same year.

**Delete the first paragraph of Article 253.15 Plant Care and substitute the following:**

During the period of establishment, the Contractor shall properly care for all plants including weeding, watering, adjusting of braces, repair of water saucers, pruning, cultivating, tightening, and repairing supports, repair of wrapping, and furnishing and applying sprays as necessary to

keep the plants free of insects and disease, or other work which is necessary to maintain the health and satisfactory appearance of the plantings. The Contractor shall provide plant care a minimum of every two weeks, or within 36 hours following notification by the Engineer. All requirements for plant care shall be considered as included in the cost of the contract.

**Delete the first paragraph of Article 253.15 Plant Care (a) and substitute with the following:**

During the period of establishment, watering (initial) shall be performed at least every 30 days following installation during the months of May through November and is included in the cost of the contract unit price per each for TREES, SHRUBS, or VINES, of the species, root type, and plant size specified. The Contractor shall apply per week a minimum of 15 gallons of water per tree, 10 gallons per large shrub, 5 gallons per small shrub, and 2 gallons per vine.

Additional watering will be done once a week (3 times a month) following installation during the months of May through November. Any required additional watering in between the regularly scheduled (initial) watering(s) will be paid for as Supplemental Watering.

Special consideration in determining water needs must be given during extreme weather conditions or if plants exhibit any signs of stress in between the regularly scheduled every thirty-day watering during the period of establishment. Water immediately if plants show signs of wilting or if top (1) inch to two (2) inches of soil is dry. Water to ensure that moisture penetrates throughout the root zone, including the surrounding soil, and only as frequently as necessary to maintain healthy growth. **Do not overwater.**

The Engineer may direct the Contractor to adjust the watering rate and frequency depending upon weather conditions. Should excess moisture prevail, the Engineer may delete any or all the additional watering cycles.

**Add the following to Article 253.15 Plant Care (c):**

The contractor shall correct any vine growing across the ground plane that should be growing up desired vertical element (noise wall, retaining wall, fence, knee wall, etc.). Work may include but is not limited to carefully weaving vines through fence and/or taping vines to vertical elements.

**Add the following to Article 253.15 Plant Care (d):**

The Contractor shall inspect all trees, shrubs, and vines for pests and diseases at least every two weeks during the months of initial planting through final acceptance. Contractor must identify and monitor pest and diseases and determine action required to maintain the good appearance, health, and top performance of all plant material. Contractor shall notify the Engineer with their inspection findings and recommendations within twenty-four (24) hours of findings. The recommendations for action by the Contractor must be reviewed and by the Engineer for approval/rejection. All approved corrective activities will be considered as included in the cost of the contract and shall be performed within thirty-six (36) hours following notification by the Engineer.

**Method of Measurement:**

Pre-emergent Herbicide will be measured for payment as specified in Weed Control, Pre-emergent Granular Herbicide.

Additional Watering will be measured for payment as specified in Supplemental Watering.

**Basis of Payment and substitute the following:**

This work will be paid for at the contract unit price per each for TREES, SHRUBS, or VINES, of the species, root type, and plant size specified, and per unit for SEEDLINGS. The unit price shall include the cost of all materials, equipment, labor, plant care, removal, disposal, and incidentals required to complete the work as specified herein and to the satisfaction of the Engineer. Payment will be made according to the following schedule:

- (a) Initial Payment. Upon completion of planting, mulching, wrapping, and bracing, 75 percent of the pay item(s) will be paid.
- (b) Final Payment. Upon inspection and acceptance of the plant material, or upon execution of a third-party bond, the remaining 25 percent of the pay item(s) will be paid.”
- (c) The placement of Pre-emergent Herbicide shall be paid for at the contract unit price for WEED CONTROL, PRE-EMERGENT GRANULAR HERBICIDE.
- (d) Additional Watering will be paid for as specified in SUPPLEMENTAL WATERING.

**WOODY PLANT CARE**

Description: This work shall consist of weeding, replenishing mulch, debris removal and disposal, insect control, pruning, edging, removal of tree stakes and wires from replacement trees, and other plant care work items for each work cycle as described herein and as directed by the Engineer. The work required for each work cycle shall be scheduled to be complete and acceptable at the time of inspection.

Inspection Date: Woody plant care will be inspected on the date specified in the CALENDAR OF CONSTRUCTION AND ESTABLISHMENT WORK in the landscape plans. The work required for each work cycle must be 100 percent complete on the inspection date. Partial inspections will not be made.

Work Requirements:

- Tree beds, shrub beds, perennial beds, and tree saucers must be 100 percent weed-free and clear of debris to be acceptable. Control weeds in planting beds by pulling entire plant

and roots. Remove weeds from all landscaped and hardscaped areas, around light poles, traffic controllers, and irrigation boxes.

- Straighten and guy any trees that have shifted over the winter.
- Dead branches, sucker growth and broken or objectionable branches on trees and shrubs must be pruned prior to bud break or when dormant.
- Do not prune shrubs into manicured shapes (cubes or globes).
- Dead plants must be removed and properly disposed of.
- Wood mulch must be replenished to maintain a 4 inch (100 mm) depth around woody plants, unless specified otherwise in the plans.
- Plants must be sprayed to eliminate any insect infestation.
- Plantings that have been growing for one season must have all stakes, wires, tree wrap, and tags/labels removed.
- Beds and tree saucers must have a neatly spaded edge between the mulched bed or saucer and the turf.
- Mulch must be raked out of turf surrounding the mulched bed or saucer.
- Remove any litter found within the area. This includes sweeping of all HMLT pads, carriage walks, and kneewall footings.
- Remove any debris caught in trees or shrubs without damaging plant.
- All debris which results from this operation must be removed from the right-of-way at the end of each day.

Method of Measurement: This work will be measured for payment as each tree (shade, intermediate, or evergreen), each shrub, and each vine cared for to the satisfaction of the Engineer on the inspection date specified in the plans. Measurement for payment of this work will be performed on the inspection date specified in the plans. If the inspection discloses any work as being unsatisfactory, the Engineer will give the Contractor the necessary instructions for correction of same, and the Contractor shall immediately comply with such instructions and correct the unsatisfactory work on the inspection date. Work that is not acceptable on the inspection date will not be measured for payment. Individual shrubs/trees within a shrub bed will not be measured for payment if any portion of the shrub/trees bed has not been cared for to the satisfaction of the Engineer.

Basis of Payment: This work will be paid for at the contract unit price each for TREE CARE, SHRUB CARE, and PERENNIAL CARE which price shall include all materials, equipment, and labor necessary to complete the work specified.

## **PLANTING PERENNIAL PLANTS**

Delete Article 254.06 Layout of Planting and substitute the following:

When plants are specified to be planted in prepared soil planting beds, the planting bed shall be approved by the Engineer prior to planting. The Contractor shall be responsible for all plant layout. The layout must be performed by qualified personnel. The planting locations must be laid out as shown in the landscape plan. This will require the use of an engineer's scale to determine some dimensions. Bed limits shall be painted or flagged. Individual plants layout shall be marked prior to installation. The Engineer will contact the Roadside Development Unit

at (847) 705-4171 to approve the layout prior to installation. Allow a minimum of three (3) days prior to installation for approval.

Add the following to Article 254.07 Planting Procedures:

When planting perennials in bed areas shown on the plans or as directed by the Engineer, the following work shall be performed prior to planting:

- Spade a planting bed edge at approximately a 45 degree angle and to a depth of approximately three (3) inches around the perimeter of the perennial bed. Remove any debris created in the spade edging process and dispose of as specified in Article 202.03.
- Do not plant when soil is muddy.
- Trees and shrubs must be installed first to establish proper layout and to avoid damage to other plantings.
- Perennial plants shall be planted by a hand method approved by the Engineer. Open holes sized to accommodate roots, place plants so it is level with the surrounding soil and backfill with soil, working carefully to avoid damage to roots and to leave no voids. Build up a small water basin of soil around each plant.
- Thoroughly water plant beds within 2 hours of installation. Do not wash soil onto crowns of plants.

Delete the first sentence of Article 254.08 Mulching and substitute the following:

Within 24 hours, the entire perennial plant bed shall be mulched with two (2) inches of fine grade Shredded Hardwood Bark Mulch. Hardwood bark mulch shall be clean, finely shredded mixed-hardwood bark not to exceed two (2) inches in its largest dimension, free of foreign matter, sticks, stones, and clods. All hardwood mulch shall be processed through a hammer mill. Hardwood bark not processed through a hammer mill shall not be accepted. A mulch sample shall be submitted to the Engineer for approval seven (7) days prior to placing.

Care shall be taken to place the mulch to form a saucer around each perennial so as not to smother the plants or bury leaves, stems or vines under mulch material.

Delete Article 254.08 (b) Period of Establishment and substitute the following:

Perennial plants must undergo a 30-day period of establishment. Additional watering shall be performed not less than once a week for four weeks following installation. Any signs of stress exhibited by plant material must be given special consideration in determining water needs. Water immediately if plants begin to wilt, or if top (1) inch to two (2) inches of soil is dry. Water shall be applied at the rate of a minimum of 2 gallons per square foot. Water to ensure that



moisture penetrates throughout the root zone, including the surrounding soil, and only as frequently as necessary to maintain healthy growth. **Do not over water.**

Should excess moisture prevail, the Engineer may delete any or all of the additional watering cycles. In severe weather, the Engineer may require additional watering.

Water must be applied in such a manner so as not to damage plant material. Water must trickle slowly into soil and completely soak the root zone. An open end hose is unacceptable. Water early in the day and apply water as close to the soil as possible without washing out soil or mulch. Water at the base of the plant to keep as much water as possible off plant leaves in order to minimize fungus problems. Watering of plants in beds shall be applied in such a manner that all plant holes are uniformly saturated without allowing water to flow beyond the periphery of the bed. Thoroughly saturate all areas of the perennial bed, not just individual plants. The plants to be watered and the method of application will be approved by the Engineer.

The Contractor will not be relieved in any way from the responsibility for unsatisfactory plants due to the amount of watering. Any loss of newly installed plant material determined by the Engineer to be due to lack of water, is the responsibility of the contractor to replace at no additional cost. Any damage to plant material due to incorrect watering must be corrected or replace at the Contractors expense, to the satisfaction of the Engineer.

Add the following Article 254.08 Period of Establishment:

During the period of establishment, weeds and grass growth shall be removed from within the mulched perennial beds. This weeding shall be performed a minimum of once per week or within 48 hours following notification by the Engineer during the 30-day period of establishment. The Contractor will not be relieved in any way from the responsibility for unsatisfactory plants due to the extent of weeding.

The weeding may be performed in any manner approved by the Engineer provided the weed and grass growth, including their roots and stems, are removed from the area specified. Mulch disturbed by the weeding operation shall be replaced to its original condition. All debris that results from this operation must be removed from the right-of-way and disposed of at the end of each day in accordance with Article 202.03.

Add the following to Article 254.09 Method of Measurement:

- a) Disposal of weeds, sod and debris (rock, stones, concrete, bottles, plastic bags, etc.) removed from the perennial planting bed as specified in Article 202.03.

Add the following to Article 254.10 Basis of Payment:

- a) Payment for Shredded Mulch shall be included in contract unit price of the perennial plant pay item.
- b) The unit price shall include the cost of all materials, equipment, labor, plant care, removal, disposal and incidentals required to complete the work as specified herein and to the satisfaction of the Engineer.

## **PERENNIAL PLANT CARE**

Description: This work shall consist of hand weeding, replenishing mulch, trimming and other perennial plant care work items for each work cycle as described herein and as directed by the Engineer. The work required for each work cycle shall be scheduled to be complete and acceptable at the time of inspection.

Inspection Date: Perennial plant care will be performed every 30 days or as directed by the Engineer. Perennial plant care will be inspected on the date the work is performed. The work required for each work cycle must be 100 percent complete on the inspection date. Partial inspections will not be made.

### Work Cycle Requirements:

- Perennial plant beds must be 100 percent weed-free and clear of litter and debris to be acceptable. Control weeds in landscaped areas by pulling the entire plant and roots. Disturbed areas shall be raked level and mulch adjusted.
- Dead flowers, stems, and leaves must be trimmed and removed.
- Monitor mulch depths to maintain a two-inch (50 mm) depth around perennial plants (no more, no less). Rake mulch any away from perennial crowns. Mulch shall not be in contact with the perennial crowns.
- Finely shredded hardwood bark mulch must be replenished to maintain a two-inch (50 mm) depth around perennial plants, if necessary. Hardwood mulch shall not exceed two (2) inches in its largest dimension, free of foreign matter, sticks, stones and clods. (Mulch must be approved by the Engineer prior to placement).
- Remove litter and other debris. All drain inlets must be kept clean and draining freely. All walls, pavement, curb and gutters, and concrete pads are to be left clean and swept free of all debris.
- Plants must be free of insect infestations and sprayed if necessary.
- Beds must have a neatly spaded edge between the mulched bed and the turf.
- Mulch must be raked out of turf surrounding the mulched bed.
- All debris that results from this operation must be removed from the right-of-way and disposed of in accordance with Article 202.03 at the end of each day.
- Trim dead tips of vines and ground covers.
- In the spring (March/April), cut back ornamental grasses to six (6) inches in height. Cut down any perennial left up over the winter to a height of six (6) inches or less and remove any dead leaves around the crowns of the plants. Rake beds free of accumulated debris, dead leaves, and other material, leaving mulch in place and being careful not to damage emerging bulb foliage and flowers. Rake back any mulch that covers plant crowns.
- Fall clean-up (October 15 – November 15; depending upon weather conditions and condition of plant material), cut back perennials leaving 3 to 4 inches height foliage as soon as foliage has died back or at discretion of the Engineer. Do not cut into plant crowns. Do not cut back any perennial with winter interest (ornamental grasses, and grass seed heads, sedum, and geranium).

Method of Measurement: The work will be measured for payment of surface area cared for to the satisfaction of the Engineer on the inspection date. The area will be computed in square yards. Measurement for payment of this work will be performed on the inspection date.

If the inspection discloses any work as being unsatisfactory, the Engineer will give the Contractor the necessary instructions for correction of same, and the Contractor shall immediately comply with such instructions and correct the unsatisfactory work on the inspection date. Work that is not acceptable on the inspection date will not be measured for payment. Individual perennial plant areas within a perennial plant bed will not be measured for payment if any portion of the perennial plant bed has not been cared for to the satisfaction of the Engineer. Each perennial plant care work cycle will be measure separately for payment.

Basis of Payment: This work will be paid for at the contract unit price per square yards for PERENNIAL PLANT CARE, which price shall include all materials, equipment, labor, removal, disposal and incidentals required to complete the work as specified herein and to the satisfaction of the Engineer.

## **FAILURE TO COMPLETE PLANT CARE AND ESTABLISHMENT WORK ON TIME**

Should the Contractor fail to complete the plant care and/or supplemental watering work within the scheduled time frame as specified in the Special Provision for "Tree Planting" and "Supplemental Watering", or within 24 hours notification from the Engineer, or within such extended times as may have been allowed by the Department, the Contractor shall be liable to the Department in the amount of \$50.00 per tree/per day and \$40.00 per shrub/per day, not as penalty but as liquidated damages, for each calendar day or a portion thereof of overrun in the contract time or such extended time as may have been allowed.

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

A calendar day is every day shown on the calendar and starts at 12:00 midnight and ends at the following 12:00 midnight, twenty four hours later.

## **MODULAR CONCRETE PAVERS (SPECIAL)**

### Description.

This work consists of installing permeable interlocking concrete pavers with the bedding layers, storage aggregate, non-woven geotextile filter fabric and any other required associated items.

### Submittals.

- A. Permeable Concrete Pavers:
  - a. Samples for verification: Three representative full-size samples of each paver type, thickness, color and finish that indicate the range of color variation and texture expected upon project completion.
  - b. Accepted samples become the standard of acceptance for the product produced.
  - c. Test results from an independent testing laboratory for compliance of concrete pavers with ASTM C 936.
  - d. Manufacturer's catalog product data, installation instructions, and material safety data sheets for the safe handling of the specified materials and products.
- B. Permeable Joint Opening Aggregate:
  - a. Provide three representative one pound samples in containers of aggregate materials that indicate the range of color variation and texture expected upon project completion.
  - b. Accepted samples become the standard of acceptance for the product produced.
  - c. Test results from an independent testing laboratory for sieve analysis, including washed graduations per ASTM C 136.
  - d. Test results for void space percentage per ASTM C 29.
- C. Permeable Setting Bed, Base and Subbase Aggregate:
  - a. Test results from an independent testing laboratory for compliance with ASTM D 448 No. 8, No. 57 and No. 2.
  - b. Test results from an independent testing laboratory for sieve analysis, including washed gradation per ASTM C 29.
- D. Paving Installation Contractor:
  - a. Job references from a minimum of three projects similar in size and complexity. Provide Owner/Client/General Contractor names, postal address, phone, fax, and email address.

### Quality Assurance.

- A. Utilize a Manufacturer having at least ten years of experience manufacturing interlocking concrete pavers on projects of similar nature of project size.
- B. Source Limitations:
  - a. Obtain Permeable Concrete Pavers from one source location with the resources to provide products of consistent quality in appearance and physical properties.
  - b. Obtain Permeable Joint Opening Aggregate from one source with the resources to provide material and products of consistent quality in appearance and physical properties.
- C. Paving Contractor Qualifications:
  - a. Utilize an installer having successfully completed concrete paver installation similar in design, material, and extent indicated on this project.
- D. Mockups:
  - a. Install a 5 ft x 5 ft paver area.

- b. Use this area to determine joint sizes, lines, laying pattern(s) and levelness. This area will serve as the standard by which the workmanship will be judged.
- c. Subject to acceptance by owner, mock-up may be retained as part of the finished work.
- d. If mock-up is not retained, haul offsite and dispose legally.

Delivery, Storage & Handling.

- A. Deliver Permeable Concrete Pavers in manufacturer's original, unopened and undamaged container packaging with identifications labels intact.
  - a. Coordinate delivery and paving schedule to minimize interference with normal use of streets and sidewalks adjacent to paver installation.
  - b. Deliver concrete pavers to the site in steel banded, plastic banded or plastic wrapped packaging capable of transfer by forklift or clamp lift.
  - c. Unload pavers at job site in such a manner that no damage occurs to the product or adjacent surfaces.
- B. Store and protect materials free from mud, dirt and other foreign materials.

Project/Site Conditions.

- A. Environmental Requirements:
  - a. Install permeable pavers only on unfrozen permeable setting bed aggregate materials.
  - b. Install permeable setting bed only on unfrozen permeable base and subbase aggregates.
  - c. Install permeable base or subbase aggregates only over unfrozen subgrade.

Permeable Concrete Paver Overage and Attic Stock.

- A. Provide a minimum of 5% additional material for overage to be used during construction.
- B. Furnish 100 square feet of each product and size used to owner for maintenance and repair. Furnish permeable concrete pavers from the same production run as installed materials.
- C. Manufacture to supply maintenance and reinstatement manuals for permeable concrete paver units.

Permeable Concrete Pavers.

- A. Basis-of Design Product: The permeable concrete paver shapes are based on:
  - a. Unilock: Eco-Optiloc
- B. Product Requirements:
  - a. Color: To be determined, contractor to submit samples to the City of Evanston for review.
  - b. Finish: To be determined, contractor to submit samples to the City of Evanston for review.
  - c. Edge: Chamfer – 3 mm bevel
  - d. Size: Manufacturer the sizes indicated with a maximum tolerance of plus or minus 1/16 in all directions. L-shape. Note: Imperial dimensions are nominal equivalents to the metric dimensions.
- C. Provide pavers meeting the minimum material and physical properties set forth in ASTM C 936, Standard Specification for Interlocking Concrete Paving Units. Efflorescence is not a cause for rejection.

- a. Average compressive strength 8000 psi (55MPa) with no individual unit under 7,200 psi (50 MPa).
- b. Average absorption of 5% with no unit greater than 7% when tested according to ASTM C140.
- c. Resistance to 50 freeze-thaw cycles, when tested according to ASTM C1645, with no breakage greater than 1.0% loss in dry weight of any individual unit. Conduct this test method not more than 12 months prior to delivery of units.
- D. Accept only pigments in concrete pavers conforming to ASTM C 979. Note: ACI Report No. 212.3R provides guidance on the use of pigments.
- E. Maximum allowable breakage of product is 5%.

Permeable Joint Opening Aggregate.

- A. Provide permeable joint opening aggregate materials conforming to IDOT gradation CA-16.

Permeable Setting Bed Aggregate.

- A. Provide permeable setting bed aggregate materials conforming to IDOT CA-16.

Permeable Base Aggregate.

- A. Provide permeable base aggregate materials conforming to IDOT CA-7.

Edge Restraints.

- A. Concrete edge restraint as shown in the plans.

Examination.

- A. Examine areas indicated to receive paving for compliance with requirements for installation tolerances and other conditions affecting performance for the following items before placing the permeable concrete pavers.
  - a. Verify that subgrade preparation, compacted density and elevations conform to the specified requirements.
  - b. Verify that geotextiles, if applicable, have been placed according to drawings and specification and manufacturers recommendations.
  - c. Verify that permeable base and subbase aggregate materials, thickness, compacted density, surface tolerances and elevations conform to specified requirements.
  - d. Provide written density test results for soil subgrade, permeable base and subbase aggregate materials to the Owner, General Contractor, and paver installation subcontractor.
  - e. Verify location, type, and elevations of edge restraints concrete collars around utility structures, and drainage inlets.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
  - a. Beginning of bedding sand and paver installation signifies acceptance of base and edge restraints.

Preparation.

- A. Verify that the subgrade is free from standing water.
- B. Stockpile permeable setting bed, joint, base and subbase aggregate materials such that they are free from standing water, uniformly graded, free of any organic material or sediment, debris and ready for placement.

- C. Remove any excess thickness or soil applied over the excavated soil subgrade to trap sediment from adjacent construction activities before placing the geotextile and permeable subbase aggregate materials.
- D. Keep area where pavement is to be constructed free from sediment during entire job. Remove and replace all geotextile, permeable joint, setting bed, base and subbase aggregate materials contaminated with sediment with clean materials.
- E. Complete all subdrainage of underground services within the pavement area in conjunction with subgrade preparation and before the commencement of permeable subbase aggregate construction.
- F. Prevent damage to underdrains, overflow pipes, observation wells, or inlets and other drainage appurtenances during installation. Report all damage immediately.
- G. Compact soil subgrade uniformly to at least 90 percent of Standard Proctor Density per ASTM D 698 for pedestrian area. Compact soil subgrade uniformly to at least 95 percent Modified Proctor per ASTM D 1557 for vehicular areas.
- H. Proof-roll prepared subgrade according to requirements listed in the plans to identify soft pockets and areas of excess yielding. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting and replace with compacted backfill or fill as directed.

Installation.

- A. Edge Restraints
  - a. Provide edge restraints as indicated.
    - i. Provide concrete edge restraint along the perimeter of all paving as specified. Install the face of the concrete edge restraint, where it abuts pavers vertical down to the subbase.
- B. Permeable Base and Subbase Aggregate
  - a. Provide the permeable subbase aggregate in uniform lifts not exceeding 6 in, loose thickness and compact to at least 95 percent as per ASTM D 4254 to depths as indicated.
  - b. Compact the permeable subbase aggregate material with at least two passes in the vibratory mode then at least two in the static mode with a minimum 10 ton vibratory roller until there is no visible movement. Do not crush aggregate with the roller.
  - c. Tolerance: Do not exceed the specified surface grade of the compacted permeable subbase aggregate material more than  $\pm 3/4$  in. over a 10 ft. long straightedge laid in any direction.
  - d. Provide the permeable base aggregate material in uniform lifts not exceeding 6 in. over the compacted permeable subbase aggregate material and compact to at least 95 percent as per ASTM D 4254 to depths as indicated.
  - e. Compact the permeable base aggregate material with at least two passes in the vibratory mode then at least two in the static mode with a minimum 10 ton vibratory roller until there is no visible movement. Do not crush aggregate with the compaction device.
  - f. Tolerance: Do not exceed the specified surface grade of the compacted permeable base aggregate material more than  $\pm 1/2$  in. over a 10 ft. long straightedge laid in any direction.
  - g. Grade and compact the upper surface of the permeable base aggregate material sufficiently to prevent infiltration of the permeable setting bed aggregate material both during construction and throughout its service life.

C. Permeable Setting Bed Aggregate

- a. Provide and spread permeable setting bed aggregate evenly over the permeable base aggregate course and screed to a nominal thickness of 1-1/2 in.
  - i. Protect screeded permeable setting bed aggregate from being disturbed.
  - ii. Screed only the area which can be covered by pavers in one day.
  - iii. Do not use permeable setting bed aggregate material to fill depressions in the base surface.
- b. Keep moisture content constant and density loose and constant until concrete pavers are set and compacted.
- c. Inspect the permeable setting bed aggregate course prior to commencing the placement of the permeable concrete pavers. Acceptance of the setting bed aggregate occurs with the initiation of permeable concrete paver placement

D. Permeable Concrete Pavers

- a. Replace until pavers with chips, cracks, voids, discolorations, and other defects that might be visible in finished work.
- b. Mix concrete pavers from a minimum of three (3) bundles simultaneously drawing the pavers vertically rather than horizontally, as they are placed, to produce uniform blend of colors and texture. Color variation occurs with all concrete products. This phenomenon is influenced by a variety of factors, e.g. moisture content, curing conditions, different aggregates and, most commonly, from different production runs. By installing from a minimum of three (3) bundles simultaneously, variation in color is dispersed and blended throughout the project.
- c. Exercise care in handling face mix pavers to prevent surfaces from contacting backs or edges of other units.
- d. Provide permeable concrete pavers using joint pattern as indicated. Adjust joint pattern at pavement edges such that cutting of edge pavers is minimized. Cut all pavers exposed to vehicular tires no smaller than one- third of a whole paver.
- e. Use string lines or chalk lines on permeable setting bed aggregate to hold all pattern lines true.
- f. Set surface elevation of pavers 1/8 in above adjacent drainage inlets, concrete collars or channels.
- g. Place units hand tight against spacer bars. Adjust horizontal placement of laid pavers to align straight
  - i. When installation is performed with mechanical equipment, use only unit pavers with spacer bars on sides of each unit.
- h. Provide space between paver units of 1/32 in. wide to achieve straight bond lines.
- i. Prevent joint (bond) lines from shifting more than +/- 1/2 in. over 50 ft. from string lines
- j. Fill gaps between units or at edges of the paved area that exceed 3/8 inch with pieces cut to fit from full sized unit pavers.
- k. Cut unit pavers with motor- driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.
- l. Prevent all traffic on installed pavers until permeable joint aggregate had been vibrated into joints. Keep skid steer and forklift equipment off newly laid pavers that have not received initial compaction and permeable joint aggregate material.



- m. Vibrate pavers into leveling course with a low- amplitude plate vibrator capable of a 5000-lbf compaction force at 80 to 90 Hz. Perform at least three passes across paving with vibrator. Vibrate under the following conditions:
  - i. After edge pavers are installed and there is a completed surface.
  - ii. Compact installed concrete pavers to within 6 feet of the laying face before ending each day's work. Cover pavers that have not been compacted and leveling course on which pavers have not been placed, with nonstaining plastic sheets to prevent permeable setting bed aggregate from becoming disturbed.
- n. Protect face mix concrete paver surface from scuffing during compaction by utilizing a urethane pad
- o. Remove any cracked or structurally damaged pavers and replace with new units prior to installing permeable joint opening aggregate material
- p. Provide, spread and sweep permeable joint opening aggregate into joints immediately after vibrating pavers into permeable setting bed course until full. Vibrate pavers and add permeable joint aggregate material until joints are completely filled, then remove excess material. This will require at least 4 passes with a plate compactor.
- q. Remove excess permeable joint aggregate broom clean from surface when installation is complete

Field Quality Control.

- A. Verify final elevations for conformance to the plans after sweeping the surface clean.
  - a. Prevent final concrete paver finished grade elevations from deviating more than +/- 3/8 in. under a 10 ft straightedge or indicated slope, for finishing surface of paving.
- B. Lippage: No greater than 1/32 in. difference in height between permeable concrete pavers and adjacent paved surfaces.

Repair, Cleaning and Sealing.

- A. Remove and replace unit pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provided new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.
- B. Cleaning: Remove excess dirt, debris, stains, grit, etc. from exposed paver surfaces; wash and scrub clean.
  - a. Clean permeable concrete pavers in accordance with the manufacturer's written recommendations.

Protection.

- A. Protect completed work from damage due to subsequent construction activity on the site.

Basis of Payment.

This work will be paid for at the Contract unit price per square foot for MODULAR CONCRETE PAVERS (SPECIAL). This work will be paid for at the Contract unit price per cubic yard for

STORAGE AGGREGATE. The non-woven geotextile filter fabric will not be measured for payment but shall be included in the cost of the work

## **RECYCLING RECEPTACLE**

### Description.

This work shall consist of furnishing and installing per manufacturers recommendation the following:

1. Manufacturer: Global Industrial, [www.globalindustrial.com](http://www.globalindustrial.com), Model: #T9722618006BL or
2. Manufacturer: Victor Stanley, Inc., [www.victorstanley.com](http://www.victorstanley.com); Model: #RB-36 or
3. Manufacturer: Wausau Tile, [www.wausautile.com](http://www.wausautile.com); Model: #MF3212

Support Frames: Steel; welded.

Recycling Receptacles:

1. Capacity 36-gallon
2. Dimensions: 36"H x 28"Dia
3. Design: Fully welded durable receptacle features long lasting flat bar steel body with a polyester powder coat finish that deters graffiti and vandalism. Three recycling logos on lid and a RECYCLE decal on body for clear identification. Metal band top for extra strength. Recycling garbage can endures extreme climate conditions. Recycle waste container includes security cable, anchor kit and black rigid plastic liner.
4. Installation Method: surface mount.

Material Finish: Powder coated Blue with white 'Recycle' markings

Options: Anchor kit and black rigid plastic liner

METHOD OF MEASUREMENT: Furnishing and installing recycling receptacles and all associated equipment and materials will be measured in place for each recycling receptacle.

BASIS OF PAYMENT: Furnishing and installing recycling receptacles will be paid for at the contract unit price per EACH for RECYCLING RECEPTACLES.

## **BICYCLE RACKS TO BE MOVED**

Scope of Work: Existing bicycle racks to be salvaged and protected during construction.

Steel racks to be cleaned and reinstalled as indicated on plans.

- A. Bicycle racks to be cleaned with fresh water, use of high-pressure washer to be avoided. Bicycle racks to be cleaned with a soft bristle brush and mild cleaner.

Bicycle Rack to be reinstalled over concrete sidewalk with surface mounted anchor bolts.

METHOD OF MEASUREMENT: Salvaging and installing bicycle racks will be measured in place for each bicycle rack to be moved.

BASIS OF PAYMENT: Salvaging and installing bicycle racks will be paid for at the contract unit price per EACH for BICYCLE RACKS TO BE MOVED.

## **LIGHT POLE, SPECIAL, TYPE 2**

### Description

This work shall consist of furnishing and installing a painted aluminum 30' mounting height davit pole complete with one LED roadway luminaire and one LED pedestrian luminaire. This item also includes pole wiring, receptacle, and fuses/fuse holders.

Holophane Lighting Poles with Autobahn luminaires.

Manufacturer Local Contact:

Ryan Morgan, [ryan.morgan@Holophane.com](mailto:ryan.morgan@Holophane.com), (815) 345-6877

### **Holophane Pole: RTA30RFD201894**

30FT (fixture mounting height) ROUND TAPERED ALUMINUM DAVIT ARM POLE WITH 8FT DAVIT ARM FOR AMERICAN ELECTRIC LIGHTING ATB2-60BLED85-MVOLT-R3 FIXTURE, BLACK PAINT FINISH, VIBRATION DAMPENERS, FESTOON OUTLET, ANCHOR BOLTS, DESIGNED FOR 90MPH AASHTO 2009

### **Roadway – ATB2-60BLED85-MVOLT-R3-3K**

Autobahn LED Roadway – Large (ATB2): ATB2, 60B Chips, 850mA Driver, Multi-Volt (120-277V), Roadway Type III, 3000K CCT, 70 CRI Min., Black, NEMA Label, Solid-State Lighting Photocontrol

### **Pedestrian – ATB0-20BLED53-MVOLT-R2-3K**

Autobahn LED Roadway – ATB0: 60B Chips, 850mA Driver, Multi-Volt (120-277V), Roadway Type II, 3000K CCT, 70 CRI Min., Black, NEMA Label, Solid-State Lighting Photocontrol

### Materials

All materials shall be in accordance with the contract plan drawings and applicable portions of Sections 1065, 1066, 1067, and 1069 of the Standard Specifications.

### Construction Requirements

All work shall be installed in accordance with Sections 821 and 830 of the Standard Specifications. The Contractor shall be responsible for coordinating the proposed bolt circle dia., anchor bolt size, and handhole orientation for the proposed light poles installed.

Work to be performed under this pay item is indicated in contract plan drawings and shall be in conformance with NEC, IDOT and local ordinances.

Guarantee

The Vendor shall provide a written guarantee for materials, and workmanship for a period of 6 months after final acceptance of the lighting system.

Documentation

All instruction sheets required to be furnished by the manufacturer for materials and supplies and for operation of the equipment shall be delivered to the Engineer.

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The manufacturer shall have been incorporated for at least five years and shall have at least five years in the design and manufacturing of roadway lighting. The manufacturer shall provide evidence of financial strength to finance the production of the project by submitting the name of at least three projects completed in the previous calendar year of greater than \$100,000 each. All steel used in the project shall be certified to be provided domestically, and all fixture components used shall be manufactured domestically.

Basis of Payment

This work shall be paid for at the Contract unit price per each LIGHT POLE, SPECIAL, TYPE 2.

**ACCESS WELLS**

Description.

This work shall be in accordance with the details and information shown on the plans.

Method of Measurement.

This work will be measured for payment per each.

Basis of Payment.

This work will be paid for at the Contract unit price per each for ACCESS WELLS. The unit price shall include all equipment, materials and labor required to furnish and construct this item.

**CONTINUOUS TREE PIT SOIL SYSTEM**

Section includes:

1. The supply and installation of the CONTINUOUS TREE PIT PLANTING SYSTEM, related materials, components, and activities. The CONTINUOUS TREE PIT PLANTING SYSTEM provides the necessary elements for growing trees to their full potential in dense urban environments.

2. Other materials include, but are not limited to, aggregate, geotextile, geogrid, PAVEMENT SUPPORT SYSTEM, root barriers, underground rootball anchoring, soil inspection portals, aeration piping and surface inlets and planting soil.
3. All work is to be completed per the design requirements of the Consultant of record and to meet or exceed the manufacturer's design and installation requirements.

Definitions:

1. **AGGREGATE PAVEMENT BASE COURSE:** Aggregate material between the top deck of the PAVEMENT SUPPORT SYSTEM and the pavement surface above. It is designed to distribute pavement loads across the top of the PAVEMENT SUPPORT SYSTEM.
2. **AGGREGGREGATE PAVER BASE COURSE:** Aggregate material between the aggregate base course and unit surface pavers, designed to function as a setting bed for the pavers.
3. **AGGREGATE SUB-BASE COURSE:** Aggregate material between the bottom of the PAVEMENT SUPPORT SYSTEM and the compacted sub-grade below, designed to distribute loads from the PAVEMENT SUPPORT SYSTEM to the subgrade. The aggregate sub-base may also be used for drainage of the planting or bioretention soil.
4. **AERATION PIPING SYSTEM:** A system of small, perforated piping that is placed around the tree rootball, and within the PAVEMENT SUPPORT SYSTEM and has inlets at finished grade. This system is used to provide a means of getting air and water into the soil and rootzone, and a means of allowing organic gases, from the decay of organic matter within the soil, to escape. Manual irrigation can be incorporated into this system.
5. **BACKFILL MATERIAL:** Material that is placed around the outside perimeter of the PAVEMENT SUPPORT SYSTEM and the vertical walls of the excavation. It is installed in lifts and compacted to support the pavement surface above. These materials are typically open-graded, self-compacting,  $\frac{3}{8}$ " (9 mm) to  $\frac{3}{4}$ " (19 mm) angular crushed stone, or a clean, native excavated material, which is free from organic matter, frozen materials, stones larger than 3" (75mm) in diameter, trash, other debris and other toxic substances injurious to plant material.
6. **BIORETENTION SOIL:** Bioretention Soil is a consistent blend of silt, sand, clay, and organic material that is used within the PAVEMENT SUPPORT SYSTEM. Bioretention soil has a high percolation rate to prevent surface ponding over 48 hours, has a large capacity to sequester pollutants and suspended solids as water percolates through, and supports the growth of plant material.
7. **COMPACTION:** The method of mechanically increasing the density of soil. Soil compaction is measured using the Proctor Test (ASTM D1557-91).
8. **CONSULTANT:** The person or entity, (Landscape Architect, Architect, Civil Engineer) employed by the City to represent their interest in the review of the Work.

9. **GEOTEXTILE / GEOFABRIC / FILTER FABRIC:** A fabric composed of high tenacity polypropylene or polyester fibers which are woven into a network such that the fibers retain their relative position and is inert to biological degradation and resistant to naturally encountered chemicals, alkalis, and acids. Used for reinforcement of aggregate pavement base.
10. **GEOGRID:** Net-shaped woven polyester fabric with a coating, uniaxial or biaxial geogrid, inert to biological degradation, resistant to naturally occurring chemicals, alkalis, and acids; used to provide a stabilizing force within soil structure as the fill interlocks with the grid. Used for reinforcement of aggregate pavement base or sub-base.
11. **GEOCOMPOSITE / GEOGRID WITH INTEGRATED NON-WOVEN GEOTEXTILE:** High strength geogrid comprised of stretched monolithic polypropylene flat bars with welded junctions and a mechanically bonded filter geotextile welded within the geogrid structure. Used for reinforcement of aggregate pavement base.
12. **FINISH GRADE:** Elevation of the finished pavement or planting surface.
13. **NATIVE SOIL:** Subsoils that are naturally present in a geographic area. Typically, these are naturally compacted, undisturbed soils.
14. **PLANTING SOIL:** As defined in Section 32 91 13 - Planting Soil is a correctly balanced soil mix consisting of silt, sand, clay, and organic material soil mix that shall provide optimum growth conditions for tree roots within the PAVEMENT SUPPORT SYSTEM and other planting spaces.
15. **REINFORCING COLLAR:** A trench between the PAVEMENT SUPPORT SYSTEM and surrounding soil, lined with geo-composite, filled with granular base course, and compacted.
16. **RIBBED ROOT BARRIER:** Linear Ribbed root barrier with vertical integral root training ribs. This product is used to redirect roots vertically, usually near the tree trunk and at the soil surface.
17. **ROOTBALL ANCHOR SYSTEM:** A below grade system comprised of cables, spearhead, plate or deadman anchors and web strap used for anchoring a rootball into the ground.
18. **ROOT & MOISTURE BARRIER:** Linear membrane to prevent root and moisture penetration into surrounding areas. This product is used to redirect roots laterally.
19. **PAVEMENT SUPPORT SYSTEM / SOIL CELL SYSTEM:** A plastic modular, pavement support system comprising of interlocking vertical uprights, infill panels and a top deck that allows for air movement above the soil profile. This system is designed to be filled with planting soil for tree rooting; bioretention soil for tree rooting and stormwater attenuation and pollutant removal; or left empty and used for stormwater infiltration, detention, or retention. It is an engineered, load-bearing system that is

designed to be used sub-surface under pedestrian and/or vehicle rated pavement surfaces.

20. SOIL INSPECTION PORT: A plastic pipe extending from the pavement surface down into the top of the PAVEMENT SUPPORT SYSTEM. This port is used for the sampling and inspection - of the soil within the PAVEMENT SUPPORT SYSTEM and can be used as a means adding nutrients to the soil.
21. SUB-DRAINAGE PIPING / UNDER DRAIN: A concealed drain with openings through which the water enters when the water table reaches the level of the drain. The under drain is typically placed in the AGGREGATE SUB-BASE COURSE beneath the PAVEMENT SUPPORT SYSTEM.
22. SUB-GRADE: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill.
23. TREE PIT / TREE WELL: Excavated space filled with appropriate soil media for tree planting.
24. TREE PIT OPENING: The pavement opening within which a tree is planted.
25. WALKED-IN: A process for light foot compaction of soils by walking through the soil during and following placement.

The Manufacturer shall be responsible for coordinating the delivery of the CONTINUOUS TREE PIT PLANTING SYSTEM to the Contractor. The system includes all components necessary for the assembly of the TREE PLANTING SYSTEM as required per the Drawings.

As required, the Manufacturer shall provide a minimum of 4 hours on-site training and support during the system installation. This may be coordinated with the Pre-Installation Meeting.

#### Pre-Installation Meeting

Prior to the installation of the CONTINUOUS TREE PIT PLANTING SYSTEM and associated Work, meet with the Consultant(s), the Contractor, the CONTINUOUS TREE PIT PLANTING SYSTEM installer and project manager, the Manufacturer's representative, the City at their discretion and other parties concerned with the system installation and performance.

Provide at least 72 hours advance notice to all participants attending the pre-installation meeting.

The pre-installation meeting agenda will include, but is not limited to:

- a. The review of required submittals,
- b. Coordination and sequence of installation with other trades and the construction schedule,
- c. Review of materials, system details and methods of installation,
- d. Site specific considerations (ie: geotechnical, hydrology),

- e. System layout and installation procedures,
- f. Mock-up of the CONTINUOUS TREE PIT PLANTING SYSTEM.

The Contractor shall be responsible for preparing the site for the system installation including, but not limited to, excavation, temporary shoring, system installation, compaction, backfilling and all labor, tools and materials required.

The Contractor shall be responsible for preparing a schedule and coordinating work under this section with other trades and disciplines impacting this work.

### SYSTEM DESCRIPTION

- A. The CONTINUOUS TREE PIT PLANTING SYSTEM shall be specifically designed for the purpose of providing large volumes of uncompacted soil for healthy tree growth and/or stormwater management (bioretention) under load-bearing pavement surfaces. At minimum, the CONTINUOUS TREE PIT PLANTING SYSTEM shall provide for uncompacted soil, soil and rootball aeration, management of tree roots, soil inspection, rootball anchoring and stormwater drainage.
- B. Specific to the site requirements, the CONTINUOUS TREE PIT PLANTING SYSTEM shall have the flexibility to be assembled around existing structures, utilities and in tight constraints to achieve the specified soil and/or stormwater volume. The system shall allow for easy disassembly and reassembly to allow for utility repair and/or maintenance within and below the system.
- C. The CONTINUOUS TREE PIT PLANTING SYSTEM shall be a complete system that at minimum includes but is not limited to the following integral components: PAVEMENT SUPPORT SYSTEM, geogrid/geofabric, aeration piping, fittings and surface inlets, root management products, underground rootball anchoring system and inspection portals.

### COMPONENTS

- A. PAVEMENT SUPPORT SYSTEM / SOIL CELL SYSTEM
  - 1. For ease of installation and for future utility repair and/or maintenance, the PAVEMENT SUPPORT SYSTEM shall consist of two main components, an upright and a top deck. An optional interlocking side infill panel shall be available and installed where additional lateral strength is required, per the Consultants design requirements.
  - 2. The PAVEMENT SUPPORT SYSTEM shall have the ability to be uniformly stacked to increase the cubic volume of soil per area of installation, and to work around existing below ground infrastructure. At minimum, the following five depth configurations shall be available: ~16", ~24", ~32", ~40", and ~48".
  - 3. The assembled PAVEMENT SUPPORT SYSTEM shall have a minimum accessible soil volume of 97% and be continuously open in both length and width.



4. The assembled PAVEMENT SUPPORT SYSTEM shall have the capability of accommodating utilities up to ~16" (400 mm) within the system.
5. As assembled, the PAVEMENT SUPPORT SYSTEM uprights shall interlock in both the vertical and horizontal axis, and the top deck shall interlock with the uprights. The PAVEMENT SUPPORT SYSTEM shall be designed to be assembled to form an interlocked soil cell matrix, or specific to site requirements, the PAVEMENT SUPPORT SYSTEM may be installed as independent or groups of soil cells. Spacing between the PAVEMENT SUPPORT SYSTEM soil cells shall be determined by the Consultant based on pavement design and load requirements. The layout of the PAVEMENT SUPPORT SYSTEM shall have the ability to be field adjusted to meet specific site requirements.
6. The PAVEMENT SUPPORT SYSTEM shall have a minimum load bearing strength of 6,260 pounds per square foot / 30,564 kilograms per square meter, as evaluated by a third-party laboratory. The assembled PAVEMENT SUPPORT SYSTEM shall at minimum, be capable of supporting vehicle loads in accordance with AASHTO H-20/HS-20, including a safety factor of 1.5, when used in conjunction with approved vehicle rated pavement profiles.
7. The PAVEMENT SUPPORT SYSTEM shall meet the minimum load bearing strength of 6,260 pounds per square foot / 30,564 kilograms per square meter when installed on slopes up to 5%. For slopes greater than 5%, and less than 10%, please contact the manufacturer for design assistance.
8. The PAVEMENT SUPPORT SYSTEM shall be designed to be filled with PLANTING SOIL, with the top deck either on or off, and without the use of strong backs to hold the uprights in position during soil installation.
9. The PAVEMENT SUPPORT SYSTEM components shall be manufactured using 100% recycled plastic to the following sizes and specifications:
  - a. Upright: Injection molded, polypropylene or polyethylene, with nominal dimensions as follows,
    1. 24"/600mm SOIL CELL UPRIGHT: ~20" x ~24" x ~4" (500 x 600 x 100 mm).
  - b. Top Deck: Injection molded, polypropylene or polyethylene deck with nominal dimensions as follows,
    1. The top deck shall be designed to provide a 3" aeration layer above the planting soil within the SOIL CELL SYSTEM.
    2. SOIL CELL TOP DECK: ~20" x ~20" x ~3" (500 x 500 x 75 mm).
  - c. Side Infill Panel: Injection molded, polypropylene or polyethylene with nominal dimensions as follows,

1. 24"/600mm SOIL CELL SIDE INFILL PANEL: ~13" x ~20.5" x ~1.5" (330 x 520 x 38 mm).

## RELATED PRODUCTS

### A. RIBBED ROOT BARRIER

1. The RIBBED ROOT BARRIER shall be designed to redirect tree roots down and away from pavement surfaces. RIBBED ROOT BARRIER shall be installed vertically at specified locations, usually near the tree trunk and at the soil surface. RIBBED ROOT BARRIER shall be manufactured to meet the following requirements:
  - a. Material shall be 100% recycled plastic.
  - b. Minimum Thickness: 0.04" (1.00 mm).
  - c. Form: Linear rolls with vertical integral root training ribs.
  - d. Depth: 24" (600 mm), as required per plan detail.
  - e. Roll Length: 100' (30 m)
  - f. Color: Black
  - g. Seams shall be overlapped ~8" (200 mm) and sealed on both sides with joining tape.

### B. PRE-FORMED RIBBED ROOT BARRIER

1. The PRE-FORMED RIBBED ROOT BARRIER shall be designed as a one-piece molded unit, with vertical integral root training ribs that are used to redirect tree roots down and away from pavement surfaces. The PRE-FORMED RIBBED ROOT BARRIER shall be installed at locations specified plans, usually near the tree trunk and at the soil surface. The PRE-FORMED RIBBED ROOT BARRIER shall be manufactured to meet the following requirements:
  - a. Material shall be 100% recycled plastic.
  - b. Dimensions: As specified on the plans.
  - c. Form: Pre-formed square or circle with vertical integral root training ribs.
  - d. Color: Black

### C. ROOT & MOISTURE BARRIER

1. The ROOT & MOISTURE BARRIER shall be designed as a linear membrane that is installed to prevent tree root growth and moisture intrusion in building foundations and underground utilities. The ROOT & MOISTURE BARRIER may be installed vertically or horizontally, as specified on the plans. The ROOT & MOISTURE BARRIER shall be manufactured to meet the following requirements:
  - a. Material shall be 100% recycled plastic.
  - b. Minimum Thickness: 0.04" (1.00 mm).

- c. Form: Linear rolls with a smooth surface.
- d. Depth 24" (600 mm), as specified on the plans.
- e. Roll Length: 100' (30 m)
- f. Color: Black
- g. Seams shall be overlapped ~8" (200 mm) and sealed on both sides with joining tape.

#### D. ROOTBALL AERATION SYSTEM

1. The ROOTBALL AERATION SYSTEM shall be designed to provide a means of getting air and water into the soil and rootzone, and a means of allowing organic gases from the decay of organic matter within the soil to escape. The ROOTBALL AERATION SYSTEM components shall be manufactured to meet the following requirements:
  - a. Aeration Pipe
    1. Material shall be 100% recycled plastic.
    2. Diameter: 2.375" (60 mm), as required per plan detail.
    3. Form: Slit perforated pipe in rolls.
    4. Connectors: Molded connectors (coupling, tee) to effect proper jointing.
    5. Roll Length: 100' (30 m)
    6. Color: Black
  - b. Aeration Inlet
    1. Body: Plastic
    2. Grate: Plastic

#### E. SOIL AERATION SYSTEM

1. The SOIL AERATION SYSTEM shall be designed to provide a means of getting air and water into the soil a means of allowing organic gases, from the decay of organic matter within the soil, to escape. The SOIL AERATION SYSTEM components shall be manufactured to meet the following requirements:
  - a. Pipe
    1. Material shall be 100% recycled plastic.
    2. Diameter: 4" (100 mm).
    3. Form: Precut non-perforated pipe.
    4. Length: ~20" (.5 m)
    5. Color: Black
  - b. Aeration Inlet
    1. Size: 6" x 6" (150 mm)
    2. Body: Stainless Steel
    3. Grate: Stainless Steel
      - a. Grate walking surface shall meet ADA requirements.

F. SOIL INSPECTION PORTAL

1. The SOIL INSPECTION PORTAL shall be designed to allow for the sampling and inspection of the soil and/or water levels within the PAVEMENT SUPPORT SYSTEM and can be used as a means adding nutrients to the soil. The SOIL INSPECTION PORTAL components shall be manufactured to meet the following requirements:
  - a. Material shall be polyvinyl chloride (PVC) pipe.
  - b. Diameter: 4" (100 mm), as required per plan detail.
  - c. Cap: Flush cap installed flush with pavement surface.

G. GEOGRID REINFORCEMENT FOR SOIL

1. A GEOGRID meeting the following meeting the following requirements shall be placed on top of the AGGREGATE SUB-BASE COURSE, beneath the PAVEMENT SUPPORT SYSTEM.
2. High-performance GEOGRID reinforcement for soil, constructed of high molecular weight and high tenacity polyester yarns utilizing a knitting process and polymeric coating to provide superior engineering properties. The GEOGRID shall be engineered to be mechanically and chemically durable, in both the harsh construction installation phase and in aggressive soil environments.
3. GeoGrid Physical Properties:

Property	Imperial	Metric
Ultimate Strength (MD) <i>(ASTM D 6637 - Method A Single-Rib)</i>	3,600 lbs/ft	52.5 kN/m
Creep Limited Strength <i>(ASTM D 5262D 6992)</i>	2,323 lbs/ft	33.9 kN/m
Long-term Design Strength <i>(Sands, Silt &amp; Clay)</i>	1,919 lbs/ft	28.0 kN/m
Product Weight	6.5 oz/sy	220.4 g/sqm

H. GEOGRID WITH INTEGRATED NON-WOVEN GEOTEXTILE:

1. A GEOGRID WITH INTEGRATED NON-WOVEN GEOTEXTILE meeting the following meeting the following requirements shall be placed on top of the PAVEMENT SUPPORT SYSTEM and beneath the AGGREGATE PAVEMENT BASE COURSE.
2. The GEOGRID WITH INTEGRATED NON-WOVEN GEOTEXTILE is a high strength geogrid comprised of stretched monolithic polypropylene flat bars with welded junctions and a mechanically bonded filter geotextile welded within the geogrid structure. It is used for reinforcement of granular pavement base. The GEOGRID WITH INTEGRATED NON-WOVEN GEOTEXTILE shall be manufactured to meet the following requirements:

a. GeoGrid Physical Properties:

Property	Units	Value
Mass per unit area	g/m <sup>3</sup>	250
Max tensile strength <i>(machine direction/cross machine direction)</i>	kN/m	≥ 40 / ≥ 40
Elongation at nominal strength <i>(machine direction/cross machine direction)</i>	%	≤ 8 / ≤ 8

b. Geotextile Properties

Property	Units	Value
Mass per unit area	g/m <sup>3</sup>	150
Max tensile strength <i>(machine direction/cross machine direction)</i>	kN/m	7.5 / 11
Elongation at nominal strength <i>(machine direction/cross machine direction)</i>	%	40 / 30
Puncture Force (x-s)	N	1,670
Opening size	mm	0.13
Water Permeability – flow rate H50	l/sm <sup>2</sup>	110

I. ROOTBALL ANCHORING SYSTEM

1. The ROOTBALL ANCHORING SYSTEM is a below grade system comprised of cables, spearhead, deadman or plate anchors and web strap used for anchoring a rootball into the ground. The ROOTBALL ANCHORING SYSTEM shall be manufactured to meet the following requirements:

- a. Material shall be as follows: stainless or galvanized steel cables, biodegradable web strapping, and plated steel tensioner
- b. Anchorhead Type/Material: Spearhead/Composite Plastic

2.04 OTHER RELATED MATERIALS

A. AGGREGATE SUB-BASE COURSE (SPECIFIED AS A DRAINAGE LAYER)

1. Coarse aggregate shall meet the following requirements:

- a. Aggregate shall be an open-graded, self-compacting, angular stone produced from 100% crushed material.
  - b. All aggregate shall be clean and washed.
2. Unless otherwise approved by the Specifying Engineer, coarse aggregate for the AGGREGATE SUB-BASE COURSE shall be uniformly graded as defined below:
- a. AGGREGATE SUB-BASE COURSE Physical Properties (AASHTO #56, 57, 6, 67, 68):

Sieve	#56	#57	#6	#67	#68
	Percent Passing				
1 1/2"	100	100	-	-	-
1"	95-100	95-100	100	100	100
3/4"	-	-	90-100	90-100	90-100
1/2"	25-80	25-80	20-55	-	-
3/8"	-	-	0-15	20-55	30-65
No 4	0-10	0-10	0-5	0-10	5-25
No 8	0-5	0-5	-	0-5	0-10
No 16	-	-	-	-	0-5
No 50	-	-	-	-	-

3. Sand shall not be an acceptable substitute for coarse aggregate.

**B. AGGREGATE SUB-BASE COURSE (NOT SPECIFIED AS A DRAINAGE LAYER)**

- 1. An aggregate meeting one of the following specifications:
  - a. ASTM D1241-07, Type 1, Gradation B Standard Specification for Materials for Soil-Aggregate Sub-base, Base, and Surface Courses.

Sieve	Percent Passing
1 1/2"	100
1"	75-95
3/8"	40-75
No 4	30-60
No 10	20-45
No 40	15-30
No 200	5-15

- b. Local Department of Transportation aggregate that most closely meets the gradation of ASTM D1241-07.
- c. Ontario Provincial Standard Specification (OPSS) 1010 Granular A. Dense graded aggregates intended for use as granular base within the pavement structure, granular shouldering, and backfill.

Sieve	ercent Passing
26.5 mm	100
19.0 mm	85-100
13.2 mm	65-90
9.5 mm	50-73
4.75 mm	35-55
1.18 mm	15-40
300 µm	5-22
75 µm	2-8

2. Sand shall not be an acceptable substitute for aggregate.

C. AGGREGATE BASE COURSE (PAVEMENT BASE – NON-PERVIOUS SURFACE)

1. An aggregate meeting one of the following specifications:

a. ASTM D1241-07, Type 1, Gradation B Standard Specification for Materials for Soil-Aggregate Sub-base, Base, and Surface Courses.

Sieve	ercent Passing
1 1/2"	100
1"	75-95
3/8"	40-75
No 4	30-60
No 10	20-45
No 40	15-30
No 200	5-15

b. Local Department of Transportation aggregate that most closely meets the gradation of ASTM D1241-07.

c. Ontario Provincial Standard Specification (OPSS) 1010 Granular A. Dense graded aggregates intended for use as granular base within the pavement structure, granular shouldering, and backfill.

Sieve	ercent Passing
26.5 mm	100
19.0 mm	85-100
13.2 mm	65-90
9.5 mm	50-73
4.75 mm	35-55
1.18 mm	15-40
300 µm	5-22
75 µm	2-8

2. Sand shall not be an acceptable substitute for aggregate.

D. PLANTING SOIL (INSTALLED WITHIN THE PAVEMENT SUPPORT SYSTEM)

1. As specified in Section 32 91 13.

E. BACKFILL MATERIAL (INSTALLED AROUND THE PERIMETER OF THE PAVEMENT SUPPORT SYSTEM)

1. The BACKFILL MATERIAL shall meet one of the following specifications:
  - a. Open-graded, self-compacting,  $\frac{3}{8}$ " (9 mm) to  $\frac{3}{4}$ " (19 mm) angular crushed stone.
  - b. Clean, compactable, native excavated material (structural fill), that is free from organic matter, frozen materials, stones larger than 3" (75mm) in diameter, trash, other debris and other toxic substances injurious to plant material.
  - c. Clean, compactable, coarse grained soil, meeting the following requirements,
    - i. Unified Soil Classification system for soil type GW, GP, GC with less than 30% fines, SW, and SC with less than 30% fines.

F. SUB-DRAINAGE PIPING / UNDER DRAIN

1. As specified in Section 33 41 16.
2. The SUB-DRAINAGE PIPING / UNDER DRAIN shall be sized and installed as specified on the plans.

**METHOD OF MEASUREMENT:** Furnishing and installing continuous tree pit soil system and all associated equipment and materials will be measured in place as Continuous Tree Pit Soil System. The cost of associated equipment and materials shall be incidental to the cost of Continuous Tree Pit Soil System.

**BASIS OF PAYMENT:** Furnishing and installing continuous tree pit soil system will be paid for at the contract unit price for SQUARE FOOT for all CONTINUOUS TREE PIT SOIL SYSTEM materials and equipment.

**RELOCATE PLANTER**

Scope of Work: Existing planters to be relocated.

Concrete planters to be emptied of soil, cleaned and reinstalled as indicated on plans.



- A. Planter to be cleaned with fresh water, use of high-pressure washer to be avoided.  
Planter to be cleaned with a soft bristle brush and mild cleaner.

METHOD OF MEASUREMENT: Relocating planters will be measured in place for each relocated planter.

BASIS OF PAYMENT: Relocating planters will be paid for at the contract unit price per EACH for RELOCATE PLANTER.

## **IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION**

Effective: August 1, 2012 Revised: February 2, 2017

In addition to the Contractor's equal employment opportunity (EEO) affirmative action efforts undertaken as required by this Contract, the Contractor is encouraged to participate in the incentive program described below to provide additional on-the-job training to certified graduates of the IDOT pre-apprenticeship training program, as outlined in this Special Provision.

IDOT funds, and various Illinois community colleges operate, pre-apprenticeship training programs throughout the State to provide training and skill-improvement opportunities to promote the increased employment of minority groups, disadvantaged persons and women in all aspects of the highway construction industry. The intent of this IDOT Pre-Apprenticeship Training Program Graduate (TPG) special provision (Special Provision) is to place these certified program graduates on the project site for this Contract in order to provide the graduates with meaningful on-the-job training. Pursuant to this Special Provision, the Contractor must make every reasonable effort to recruit and employ certified TPG trainees to the extent such individuals are available within a practicable distance of the project site.

Specifically, participation of the Contractor or its subcontractor in the Program entitles the participant to reimbursement for graduates' hourly wages at \$15.00 per hour per utilized TPG trainee, subject to the terms of this Special Provision. Reimbursement payment will be made even though the Contractor or subcontractor may also receive additional training program funds from other non-IDOT sources for other non-TPG trainees on the Contract, provided such other source does not specifically prohibit the Contractor or subcontractor from receiving reimbursement from another entity through another program, such as IDOT through the TPG program. With regard to any IDOT funded construction training program other than TPG, however, additional reimbursement for other IDOT programs will not be made beyond the TPG Program described in this Special Provision when the TPG Program is utilized.

No payment will be made to the Contractor if the Contractor or subcontractor fails to provide the required on-site training to TPG trainees, as solely determined by IDOT. A TPG trainee must begin training on the project as soon as the start of work that utilizes the relevant trade skill and the TPG trainee must remain on the project site through completion of the Contract, so long as training opportunities continue to exist in the relevant work classification. Should a TPG trainee's employment end in advance of the completion of the Contract, the Contractor must promptly notify the IDOT District EEO Officer for the Contract that the TPG's involvement in the Contract has ended. The Contractor must supply a written report for the reason the TPG trainee involvement terminated, the hours completed by the TPG trainee on the Contract, and the number of hours for which the incentive payment provided under this Special Provision will be, or has been claimed for the separated TPG trainee.

Finally, the Contractor must maintain all records it creates as a result of participation in the Program on the Contract, and furnish periodic written reports to the IDOT District EEO Officer that document its contractual performance under and compliance with this Special Provision. Finally, through participation in the Program and reimbursement of wages, the Contractor is not relieved of, and IDOT has not waived, the requirements of any federal or state labor or employment law applicable to TPG workers, including compliance with the Illinois Prevailing Wage Act.

**METHOD OF MEASUREMENT:** The unit of measurement is in hours.

**BASIS OF PAYMENT:** This work will be paid for at the contract unit price of \$15.00 per hour for each utilized certified TPG Program trainee (TRAINEES TRAINING PROGRAM GRADUATE). The estimated total number of hours, unit price, and total price must be included in the schedule of prices for the Contract submitted by Contractor prior to beginning work. The initial number of TPG trainees for which the incentive is available for this contract is 1.

The Department has contracted with several educational institutions to provide screening, tutoring and pre-training to individuals interested in working as a TPG trainee in various areas of common construction trade work. Only individuals who have successfully completed a Pre-Apprenticeship Training Program at these IDOT approved institutions are eligible to be TPG trainees. To obtain a list of institutions that can connect the Contractor with eligible TPG trainees, the Contractor may contact: HCCTP TPG Program Coordinator, Office of Business and Workforce Diversity (IDOT OBWD), Room 319, Illinois Department of Transportation, 2300 S. Dirksen Parkway, Springfield, Illinois 62764. Prior to commencing construction with the utilization of a TPG trainee, the Contractor must submit documentation to the IDOT District EEO Officer for the Contract that provides the names and contact information of the TPG trainee(s) to be trained in each selected work classification, proof that that the TPG trainee(s) has successfully completed a Pre-Apprenticeship Training Program, proof that the TPG is in an Apprenticeship Training Program approved by the U.S. Department of Labor Bureau of Apprenticeship Training, and the start date for training in each of the applicable work classifications.

To receive payment, the Contractor must provide training opportunities aimed at developing a full journeyworker in the type of trade or job classification involved. During the course of performance of the Contract, the Contractor may seek approval from the IDOT District EEO Officer to employ additional eligible TPG trainees. In the event the Contractor subcontracts a portion of the contracted work, it must determine how many, if any, of the TPGs will be trained by the subcontractor. Though a subcontractor may conduct training, the Contractor retains the responsibility for meeting all requirements imposed by this Special Provision. The Contractor must also include this Special Provision in any subcontract where payment for contracted work performed by a TPG trainee will be passed on to a subcontractor.

Training through the Program is intended to move TPGs toward journeyman status, which is the primary objective of this Special Provision. Accordingly, the Contractor must make every effort to enroll TPG trainees by recruitment through the Program participant educational institutions to the extent eligible TPGs are available within a reasonable geographic area of the project. The Contractor is responsible for demonstrating, through documentation, the recruitment efforts it has undertaken prior to the determination by IDOT whether the Contractor is in compliance with this Special Provision, and therefore, entitled to the Training Program Graduate reimbursement of \$15.00 per hour.

Notwithstanding the on-the-job training requirement of this TPG Special Provision, some minimal off-site training is permissible as long as the offsite training is an integral part of the work of the contract, and does not compromise or conflict with the required on-site training that is central to the purpose of the Program. No individual may be employed as a TPG trainee in any work classification in which he/she has previously successfully completed a training program leading to journeyman status in any trade, or in which he/she has worked at a journeyman level or higher.

**SPECIAL PROVISION FOR INSURANCE (LR107-4)**

LR107-4  
Page 1 of 1

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets

**SPECIAL PROVISION  
FOR  
INSURANCE**

Effective: February 1, 2007  
Revised: August 1, 2007

All references to Sections or Articles in this specification shall be construed to mean specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

The Contractor shall name the following entities as additional insured under the Contractor's general liability insurance policy in accordance with Article 107.27:

- CITY OF EVANSTON

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The entities listed above and their officers, employees, and agents shall be indemnified and held harmless in accordance with Article 107.26.

**LOCAL QUALITY ASSURANCE/QUALITY MANAGEMENT QC/QA (LR1030-2)**

State of Illinois  
DEPARTMENT OF TRANSPORTATION  
Bureau of Local Roads & Streets  
SPECIAL PROVISION  
FOR  
LOCAL QUALITY ASSURANCE/QUALITY MANAGEMENT QC/QA  
Effective: January 1, 2022

Replace the first five paragraphs of Article 1030.06 of the Standard Specifications with the following:

**“1030.06 Quality Management Program.** The Quality Management Program (QMP) will be Quality Control / Quality Assurance (QC/QA) according to the following.”

Delete Article 1030.06(d)(1) of the Standard Specifications.

Revise Article 1030.09(g)(3) of the Standard Specifications to read:

“(3) If core testing is the density verification method, the Contractor shall provide personnel and equipment to collect density verification cores for the Engineer. Core locations will be determined by the Engineer following the document “Hot-Mix Asphalt QC/QA Procedure for Determining Random Density Locations” at density verification intervals defined in Article 1030.09(b). After the Engineer identifies a density verification location and prior to opening to traffic, the Contractor shall cut a 4 in. (100 mm) diameter core. With the approval of the Engineer, the cores may be cut at a later time.”

Revise Article 1030.09(h)(2) of the Standard Specifications to read:

“(2) After final rolling and prior to paving subsequent lifts, the Engineer will identify the random density verification test locations. Cores or nuclear density gauge testing will be used for density verification. The method used for density verification will be as selected below.

Density Verification Method	
<input type="checkbox"/>	Cores
<input checked="" type="checkbox"/>	Nuclear Density Gauge (Correlated when paving ≥ 3,000 tons per mixture)

Density verification test locations will be determined according to the document “Hot-Mix Asphalt QC/QA Procedure for Determining Random Density Locations”. The density testing interval for paving wider than or equal to 3 ft (1 m) will be 0.5 miles (800m) for lift thicknesses of 3 in. (75 mm) or less and 0.2 miles (320 m) for lift thicknesses greater than 3 in. (75 mm). The density testing interval for paving less than 3 ft (1 m) wide will be 1 mile (1,600 m). If a day’s paving will be less than the

prescribed density testing interval, the length of the day's paving will be the interval for that day. The density testing interval for mixtures used for patching will be 50 patches with a minimum of one test per mixture per project.

If core testing is the density verification method, the Engineer will witness the Contractor coring, and secure and take possession of all density samples at the density verification locations. The Engineer will test the cores collected by the Contractor for density according to Illinois Modified AASHTO T 166 or AASHTO T 275.

If nuclear density gauge testing is the density verification method, the Engineer will conduct nuclear density gauge tests. The Engineer will follow the density testing procedure detailed in the document "Illinois Modified ASTM D 2950, Standard Test Method for Density of Bituminous Concrete In-Place by Nuclear Method".

A density verification test will be the result of a single core or the average of the nuclear density tests at one location. The results of each density test must be within acceptable limits. The Engineer will promptly notify the Contractor of observed deficiencies."

Revise the seventh paragraph and all subsequent paragraphs in Section D. of the document "Hot-Mix Asphalt QC/QA Initial Daily Plant and Random Samples" to read:

"Mixtures shall be sampled from the truck at the plant by the Contractor following the same procedure used to collect QC mixture samples (Section A). This process will be witnessed by the Engineer who will take custody of the verification sample. Each sample bag with a verification mixture sample will be secured by the Engineer using a locking ID tag. Sample boxes containing the verification mixture sample will be sealed/taped by the Engineer using a security ID label."

**SWPPP STORM WATER POLLUTION PREVENTION PLAN**



Illinois Department  
of Transportation

Storm Water Pollution Prevention Plan



Route	Marked Route	Section Number
FAU 1329 (Main Street)	FAP 1329	19-00283-00-PV
Project Number	County	Contract Number
QLBY(269)	Cook	61H93

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit No. ILR10 (Permit ILR10), issued by the Illinois Environmental Protection Agency (IEPA) for storm water discharges from construction site activities.

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

Signature	Date	
	11/16/22	
Print Name	Title	Agency
Christopher Venatta, P.E.	Senior Project Manager	City of Evanston

Note: Guidance on preparing each section of BDE 2342 can be found in Chapter 41 of the IDOT Bureau of Design and Environment (BDE) Manual. Chapter 41 and this form also reference the IDOT Drainage Manual which should be readily available.

**I. Site Description:**

A. Provide a description of the project location; include latitude and longitude, section, town, and range:

The project is located on Main Street (FAU 1329) between Maple Avenue to the west and Hinman Avenue to the east. This section of Main Street to be improved is located in Cook County, Illinois within the City of Evanston. The latitude is 42.033943 and the longitude is -87.680565. Section 19, Township 41N, Range 14E.

The design, installation, and maintenance of BMPs at these locations are within District 1, an area where annual erosivity (R value) is less than or equal to 160. Erosivity is less than 5 in all two-week periods between October 12 and April 15, which would qualify for a construction rainfall erosivity waiver under the US Construction General Permit requirements. At these locations, erosivity is highest in spring and summer, April 16 - October 11.

B. Provide a description of the construction activity which is the subject of this plan. Include the number of construction stages, drainage improvements, in-stream work, installation, maintenance, removal of erosion measures, and permanent stabilization:

The project includes roadway resurfacing, curb and gutter, sidewalk replacement, permeable interlocking concrete pavers, raised mid-block crossing, catch basin and inlet installation with short lengths of storm sewer, traffic signals at Main St / Sherman Ave and Main St / Hinman Ave. The project also includes the installation, maintenance and removal of Erosion and Sediment Control Measures.

The project will be completed in 2 stages.

Stage 1- contractor will work on north side of the project site. Contractor work will include removal of existing curb, sidewalk, and pavement and pavement milling as well as reconstruction of the proposed curb, sidewalk, permeable pavers and pavement. ADA ramps on north side of some of the intersections will be also done in this stage. Drainage structures such as inlets and catch basins on north side of centerline of Main Street will also done in this stage. For ESC measures, inlet protection will be provided to all open lid catch basins, manholes and inlets. Tree protection will also be provided for trees within the work area as shown on plans.

Stage 2 - Contractor will work on south side of work area and perform the same activities as in stage 1.

For ESC measures, inlet protection, tree protection, and permanent sodding shall be used. Inlet protection shall be installed by contractor prior to any earth-activity. For maintenance of inlet protection, contractor shall clean the filter if there is accumulated trash, sediment and if there is standing water. Contractor can remove the inlet protection once final stabilization conditions have been achieved.

Permanent stabilization - As per plans, sod shall be provided in different areas and some new trees will also be planted.

C. Provide the estimated duration of this project:  
The project duration is estimated to be 1 year.

D. The total area of the construction site is estimated to be 3.09 acres.  
The total area of the site estimated to be disturbed by excavation, grading or other activities is 3.09 acres.

E. The following are weighted averages of the runoff coefficient for this project before and after construction activities are completed; see Section 4-102 of the IDOT Drainage Manual:  
C = 0.60 (Proposed) C= 0.60 (Existing)  
No change from the existing condition.

F. List all soils found within project boundaries; include map unit name, slope information, and erosivity:  
5.33 (Urban land)

G. If wetlands were delineated for this project, provide an extent of wetland acreage at the site; see Phase I report:  
N/A

H. Provide a description of potentially erosive areas associated with this project:  
N/A

I. The following is a description of soil disturbing activities by stages, their locations, and their erosive factors (e.g., steepness of slopes, length of slopes, etc.):  
Stage 1 - Excavation and grading of the north side of Main Street for the work described in Item B of this document. This area includes soil 533 (Urban land) with mild roadway longitudinal slopes of 0.30% to 1.95%.  
Stage 2 - Excavation and grading of the south side of Main Street for the work described in Item B of this document. This area includes soil 533 (Urban land) with mild roadway longitudinal slopes of 0.30% to 1.95%.

J. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent offsite sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands), and locations where storm water is discharged to surface water including wetlands.

K. Identify who owns the drainage system (municipality or agency) this project will drain into:  
City of Evanston and Cook County.

L. The following is a list of General NPDES ILR40 permittees within whose reporting jurisdiction this project is located:  
City of Evanston and Cook County.

M. The following is a list of receiving water(s) and the ultimate receiving water(s) for this site. In addition, include receiving waters that are listed as Biologically Significant Streams by the Illinois Department of Natural Resources (IDNR). The location of the receiving waters can be found on the erosion and sediment control plans:



N/A

N. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes (i.e., 1:3 or steeper), highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc. Include any commitments or requirements to protect adjacent wetlands.

For any storm water discharges from construction activities within 50-feet of Waters of the U.S. (except for activities for water-dependent structures authorized by a Section 404 permit, describe: a) How a 50-foot undisturbed natural buffer will be provided between the construction activity and the Waters of the U.S. or b) How additional erosion and sediment controls will be provided within that area.

N/A

O. Per the Phase I document, the following sensitive environmental resources are associated with this project and may have the potential to be impacted by the proposed development. Further guidance on these resources is available in Section 41-4 of the BDE Manual.

N/A

303(d) Listed receiving waters for suspended solids, turbidity, or siltation.  
The name(s) of the listed water body, and identification of all pollutants causing impairment:

N/A

Provide a description of how erosion and sediment control practices will prevent a discharge of sediment resulting from a storm event equal to or greater than a twenty-five (25) year, twenty-four (24) hour rainfall event:

A 25 year, 24 hour storm is approximately 6 inches of rainfall. Inlet protection with sediment bags will be used at all existing and proposed inlets during construction activities.

Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:

N/A

Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

N/A

Applicable Federal, Tribal, State, or Local Programs

Floodplain

Historic Preservation

Receiving waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity or siltation

TMDL (fill out this section if checked above)

The name(s) of the listed water body:

N/A

Provide a description of the erosion and sediment control strategy that will be incorporated into the site design that is consistent with the assumptions and requirements of the TMDL:

N/A

If a specific numeric waste load allocation has been established that would apply to the project's discharges, provide a description of the necessary steps to meet that allocation:

Threatened and Endangered Species/Illinois Natural Areas (INA)/Nature Preserves

<input type="checkbox"/> Other
<input type="checkbox"/> Wetland

P. The following pollutants of concern will be associated with this construction project:

- |  |   |
|--|---|
| <input type="checkbox"/> Antifreeze / Coolants   | <input type="checkbox"/> Solid Waste Debris   |
| <input checked="" type="checkbox"/> Concrete   | <input type="checkbox"/> Solvents   |
| <input checked="" type="checkbox"/> Concrete Curing Compounds                                      | <input checked="" type="checkbox"/> Waste water from cleaning construction equipments |
| <input checked="" type="checkbox"/> Concrete Truck Waste   | <input type="checkbox"/> Other (Specify) _____  |
| <input type="checkbox"/> Fertilizers / Pesticides  | <input type="checkbox"/> Other (Specify) _____  |
| <input type="checkbox"/> Paints  | <input type="checkbox"/> Other (Specify) _____  |
| <input checked="" type="checkbox"/> Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids) | <input type="checkbox"/> Other (Specify) _____  |
| <input checked="" type="checkbox"/> Soil Sediment  | <input type="checkbox"/> Other (Specify) _____  |

II. Controls:

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in Section I.C above and for all use areas, borrow sites, and waste sites. For each measure discussed, the Contractor will be responsible for its implementation as indicated. The Contractor shall provide to the Resident Engineer a plan for the implementation of the measures indicated. The Contractor, and subcontractors, will notify the Resident Engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the Permit ILR10. Each such Contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

A. Erosion and Sediment Controls: At a minimum, controls must be coordinated, installed and maintained to:

1. Minimize the amount of soil exposed during construction activity;
2. Minimize the disturbance of steep slopes;
3. Maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible;
4. Minimize soil compaction and, unless infeasible, preserve topsoil.

B. 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 but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II.B.1 and II.B.2, stabilization measures shall be initiated immediately where construction activities have temporarily or permanently ceased, but in no case more than one (1) day after the construction activity in that portion of the site has temporarily or permanently ceased on all disturbed portions of the site where construction will not occur for a period of fourteen (14) or more calendar days.

1. Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.
2. On areas where construction activity has temporarily ceased and will resume after fourteen (14) days, a temporary stabilization method can be used.

The following stabilization practices will be used for this project:

- |  |  |
|--|--|
| <input type="checkbox"/> Erosion Control Blanket / Mulching        | <input type="checkbox"/> Temporary Turf (Seeding, Class 7) |
| <input type="checkbox"/> Geotextiles                               | <input type="checkbox"/> Temporary Mulching                |
| <input checked="" type="checkbox"/> Permanent Seeding              | <input type="checkbox"/> Vegetated Buffer Strips           |
| <input checked="" type="checkbox"/> Preservation of Mature Seeding | <input type="checkbox"/> Other (Specify) _____             |
| <input checked="" type="checkbox"/> Protection of Trees            | <input type="checkbox"/> Other (Specify) _____             |
| <input type="checkbox"/> Sodding                                   | <input type="checkbox"/> Other (Specify) _____             |
| <input type="checkbox"/> Temporary Erosion Control Seeding         | <input type="checkbox"/> Other (Specify) _____             |

Describe how the stabilization practices listed above will be utilized during construction:

During construction, providing tree protection, inlet protection and permanent sodding.

Inlet Protection - Inlet protection with sediment bags will be used at all existing and proposed inlets during construction activities.

Protection of Trees - Areas of trees, shrubs and other woody vegetation designated to remain undisturbed during any stage of construction shall be protected. Clearly delineate protected areas prior to clearing/grubbing or other soil disturbing activities.

Sod - Permanent sod will be installed in the project area once the topsoil work is complete in that area.

Describe how the stabilization practices listed above will be utilized after construction activities have been completed:

Refer to the landscaping plan sheets for the contract specific stabilization practices used for permanent conditions after construction activities. All areas disturbed by construction will be stabilized with permanent sod.

Permanent Sod - Used at locations where there will be no more disturbances. The sod will keep the soil from eroding due to natural conditions (wind, rain, etc).

C. **Structural Practices:** Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include but are not limited to: perimeter erosion barrier, earth dikes, drainage swales, sediment traps, ditch checks, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

- |   |  |
|---|--|
| <input type="checkbox"/> Aggregate Ditch<br><input type="checkbox"/> Concrete Revetment Mats<br><input checked="" type="checkbox"/> Dust Suppression<br><input type="checkbox"/> Dewatering Filtering<br><input type="checkbox"/> Gabions<br><input type="checkbox"/> In-Stream or Wetland Work<br><input type="checkbox"/> Level Spreaders<br><input type="checkbox"/> Paved Ditch<br><input type="checkbox"/> Permanent Check Dams<br><input type="checkbox"/> Perimeter Erosion Barrier<br><input type="checkbox"/> Permanent Sediment Basin<br><input type="checkbox"/> Retaining Walls<br><input type="checkbox"/> Riprap<br><input type="checkbox"/> Rock Outlet Protection<br><input type="checkbox"/> Sediment Trap<br><input checked="" type="checkbox"/> Storm Drain Inlet Protection | <input type="checkbox"/> Stabilized Construction Exits<br><input type="checkbox"/> Stabilized Trench Flow<br><input type="checkbox"/> Slope Mattress<br><input type="checkbox"/> Slope Walls<br><input type="checkbox"/> Temporary Ditch Check<br><input type="checkbox"/> Temporary Pipe Slope Drain<br><input type="checkbox"/> Temporary Sediment Basin<br><input type="checkbox"/> Temporary Stream Crossing<br><input type="checkbox"/> Turf Reinforcement Mats<br><input type="checkbox"/> Other (Specify) _____<br><input type="checkbox"/> Other (Specify) _____<br><input type="checkbox"/> Other (Specify) _____<br><input type="checkbox"/> Other (Specify) _____<br><input type="checkbox"/> Other (Specify) _____<br><input type="checkbox"/> Other (Specify) _____<br><input type="checkbox"/> Other (Specify) _____ |
|---|--|

Describe how the structural practices listed above will be utilized during construction:

Refer to the Erosion and Sediment Control staging plan sheets for the contract specific structural practices for temporary conditions during construction.

Inlet filters, as specified in Article 1081.15(h) of the Standard Specifications will be installed at all inlets, catch basins and manholes for the duration of construction. Inlet filters will be cleaned on a regular basis. Ensure proper quantities of inlet filters are included in the contract.

Dust Control - Contractor shall make a detailed dust control plan in accordance with Illinois Urban Manual. Cost of dust control shall be considered included in unit bid price of the contract and no additional compensation

will be allowed.

Describe how the structural practices listed above will be utilized after construction activities have been completed:  
N/A

**D. Treatment Chemicals**

Will polymer flocculants or treatment chemicals be utilized on this project:  Yes  No

If yes above, identify where and how polymer flocculants or treatment chemicals will be utilized on this project.

**E. Permanent (i.e., Post-Construction) Storm Water Management Controls:** Provided below is a description of measures that will be installed during the construction process to control volume and 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.

1. Such practices may include but are not limited to: storm water detention structures (including wet ponds), storm water retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff on site, and sequential systems (which combine several practices).

The practices selected for implementation were determined based on the technical guidance in Chapter 41 (Construction Site Storm Water Pollution Control) of the IDOT BDE Manual. If practices other than those discussed in Chapter 41 are selected for implementation or if practices are applied to situations different from those covered in Chapter 41, the technical basis for such decisions will be explained below.

2. 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 permanent storm water management controls:

Permanent Sod will be provided at all disturbed locations. The sod will keep the soil from eroding due to natural conditions (wind, rain, etc).

**F. Approved State or Local Laws:** The management practices, controls and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the IEPA's Illinois Urban Manual. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under the Permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

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

Approval required by IDOT.

**G. Contractor Required Submittals:** Prior to conducting any professional services at the site covered by this plan, the Contractor and each subcontractor responsible for compliance with the permit shall submit to the Resident Engineer a Contractor Certification Statement, BDE 2342A.

1. The Contractor shall provide a construction schedule containing an adequate level of detail to show major activities with implementation of pollution prevention BMPs, including the following items:

- Approximate duration of the project, including each stage of the project
- Rainy season, dry season, and winter shutdown dates
- Temporary stabilization measures to be employed by contract phases
- Mobilization time-frame
- Mass clearing and grubbing/roadside clearing dates
- Deployment of Erosion Control Practices
- Deployment of Sediment Control Practices (including stabilized cons

- Deployment of Construction Site Management Practices (including concrete washout facilities, chemical storage, refueling locations, etc.)
  - Paving, saw-cutting, and any other pavement related operations
  - Major planned stockpiling operation
  - Time frame for other significant long-term operations or activities that may plan non-storm water discharges as dewatering, grinding, etc
  - Permanent stabilization activities for each area of the project
2. During the pre-construction meeting, the Contractor and each subcontractor shall provide, as an attachment to their signed Contractor Certification Statement, a discussion of how they will comply with the requirements of the permit in regard to the following items and provide a graphical representation showing location and type of BMPs to be used when applicable:
- Temporary Ditch Checks - Identify what type and the source of Temporary Ditch Checks that will be installed as part of the project. The installation details will then be included with the SWPPP.
  - Vehicle Entrances and Exits - Identify type and location of stabilized construction entrances and exits to be used and how they will be maintained.
  - Material Delivery, Storage and Use - Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project.
  - Stockpile Management - Identify the location of both on-site and off-site stockpiles. Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
  - Waste Disposal - Discuss methods of waste disposal that will be used for this project.
  - Spill Prevention and Control - Discuss steps that will be taken in the event of a material spill (chemicals, concrete curing compounds, petroleum, etc.)
  - Concrete Residuals and Washout Wastes - Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
  - Litter Management - Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
  - Vehicle and Equipment Fueling - Identify equipment fueling locations for this project and what BMPs will be used to ensure containment and spill prevention.
  - Vehicle and Equipment Cleaning and Maintenance - Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.
  - Dewatering Activities - Identify the controls which will be used during dewatering operations to ensure sediments will not leave the construction site.
  - Polymer Flocculants and Treatment Chemicals - Identify the use and dosage of treatment chemicals and provide the Resident Engineer with Material Safety Data Sheets. Describe procedures on how the chemicals will be used and identify who will be responsible for the use and application of these chemicals. The selected individual must be trained on the established procedures.
  - Additional measures indicated in the plan.

### III. Maintenance:

When requested by the Contractor, the Resident Engineer will provide general maintenance guides (e.g., IDOT Erosion and Sediment Control Field Guide) to the Contractor for the practices associated with this project. Describe how all items will be checked for structural integrity, sediment accumulation and functionality. Any damage or undermining shall be repaired immediately. Provide specifics on how repairs will be made. The following additional procedures will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. It will be the Contractor's responsibility to attain maintenance guidelines for any manufactured BMPs which are to be installed and maintained per manufacture's specifications.

All ESC measures will be maintained in accordance with the IDOT Erosion and Sediment Control Field Guide for Construction Inspection and IDOT's Best Management Practices - Maintenance Guide: (<http://www.idot.illinois.gov/transportation-system/environment/erosion-and-sediment-control>).

All maintenance of ESC systems is the responsibility of the contractor. The Contractor shall check all ESC measures weekly and after each rainfall, 0.5 inches or greater in a 24 hour period, or equivalent snowfall. Additionally, during winter months, all measures should be checked by the Contractor after each significant snow melt. All ESC measures will be inspected by the resident engineer such as inlet protection, permanent sod, and all other items shown on the ESC plans and general notes to verify that they have been installed and maintained properly. The RE shall check for Structural Integrity, sediment accumulation and functionality. Accumulated sediment should be removed and properly disposed of as required.

\* Sod - All erodible bare earth will be sodded on a weekly basis to minimize the amount of erodible surface within the contract limits.

\* Protection of Trees - Replace damaged vegetation with similar species. Restore areas disturbed, disrupted or

damaged by the Contractors to pre-construction conditions or better at no additional expense to the contract.

\*Inlet Filters - Remove sediment from inlet filter basket when it is 25% full or 50% of the fabric pores are covered with silt. Clean filter if standing water is present longer than one hour after a rain event. Remove trash accumulated around or on top of practice. When filter is removed for cleaning, replace filter if any tear is present. Also, inspect inlet filter for any puncture or holes due to sedimentation.

All offsite Borrow, Waste and Use areas are part of the construction site and are to be inspected according to the language in Inspections (IV.) section.

#### IV. Inspections:

Qualified personnel shall inspect disturbed areas of the construction site including Borrow, Waste, and Use Areas, which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site using IDOT Storm Water Pollution Prevention Plan Erosion Control Inspection Report, BC 2259. Such inspections shall be conducted at least once every seven (7) calendar days and within twenty-four (24) hours of the end of a storm or by the end of the following business or work day that is 0.5 inch or greater or equivalent snowfall.

Inspections may be reduced to once per month when construction activities have ceased due to frozen conditions. Weekly inspections will recommence when construction activities are conducted, or if there is 0.5" or greater rain event, or a discharge due to snowmelt occurs.

If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer shall notify the appropriate IEPA Field Operations Section office by email at: [epa\\_swnoncomp@illinois.gov](mailto:epa_swnoncomp@illinois.gov), telephone or fax within twenty-four (24) hours of the incident. The Resident Engineer shall then complete and submit an "Incidence of Non-Compliance" (ION) report for the identified violation within five (5) days of the incident. The Resident Engineer shall use forms provided by IEPA and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of non-compliance shall be signed by a responsible authority in accordance with Part VI. G of the Permit ILR10.

The Incidence of Non-Compliance shall be mailed to the following address:

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
Attn: Compliance Assurance Section  
1021 North Grand East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

#### V. Failure to Comply:

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in the implementation of a National Pollutant Discharge Elimination System/Erosion and Sediment Control Deficiency Deduction against the Contractor and/or penalties under the Permit ILR10 which could be passed on to the Contractor.

**SWPPP CONTRACTOR CERTIFICATION STATEMENT SHEET**



**Contractor Certification Statement**



Prior to conducting any professional services at the site covered by this contract, the Contractor and every subcontractor must complete and return to the Resident Engineer the following certification. A separate certification must be submitted by each firm. Attach to this certification all items required by Section II.G of the Storm Water Pollution Prevention Plan (SWPPP) which will be handled by the Contractor/subcontractor completing this form.

Route	Marked Route	Section Number
FAU 1329 (Main Street)	FAU 1329	19-00283-00-PV
Project Number	County	Contract Number
QLBY(269)	Cook	61H93

This certification statement is a part of SWPPP for the project described above, in accordance with the General NPDES Permit No. ILR10 issued by the Illinois Environmental Protection Agency.

I certify under penalty of law that I understand the terms of the Permit No. ILR 10 that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Additionally, I have read and understand all of the information and requirements stated in SWPPP for the above mentioned project; I have received copies of all appropriate maintenance procedures; and, I have provided all documentation required to be in compliance with the Permit ILR10 and SWPPP and will provide timely updates to these documents as necessary.

- Contractor
- Sub-Contractor

Signature		Date	
<input type="text"/>		<input type="text"/>	
Print Name		Title	
<input type="text"/>		<input type="text"/>	
Name of Firm		Phone	
<input type="text"/>		<input type="text"/>	
Street Address		City	State    Zip Code
<input type="text"/>		<input type="text"/>	<input type="text"/> <input type="text"/>
Items which this Contractor/subcontractor will be responsible for as required in Section II.G. of SWPPP			
<input type="text"/>			

IEPA LPC-663



Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

**Uncontaminated Soil Certification**  
**by Licensed Professional Engineer or Licensed Professional Geologist**  
**for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-663**

Revised in accordance with 35 Ill. Adm. Code 1100, as amended by PCB R2012-009 (eff. Aug. 27, 2012)

This certification form is to be used by professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i) is uncontaminated soil and (ii) is within a pH range of 6.26 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris (CCDD) fill operations or uncontaminated soil fill operations.

**I. Source Location Information**

(Describe the location of the source of the uncontaminated soil)

Project Name: Main Street Evanston Office Phone Number, if available: \_\_\_\_\_

Physical Site Location (address, including number and street):

500-1000 Main Street

City: Evanston State: IL Zip Code: 60202

County: Cook Township: Evanston

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 42.03396 Longitude: - 87.68055

(Decimal Degrees) (-Decimal Degrees)

Identify how the lat/long data were determined:

GPS  Map Interpolation  Photo Interpolation  Survey  Other

Google Earth

IEPA Site Number(s), if assigned: BOL: \_\_\_\_\_ BOW: \_\_\_\_\_ BOA: \_\_\_\_\_

Approximate Start Date (mm/dd/yyyy): 04/01/2023 Approximate End Date (mm/dd/yyyy): 12/31/2023

Estimated Volume of debris (cu. Yd.): 67

**II. Owner/Operator Information for Source Site**

Site Owner

Name: \_\_\_\_\_ City of Evanston

Street Address: \_\_\_\_\_ 2100 Ridge Avenue

PO Box: \_\_\_\_\_

City: \_\_\_\_\_ Evanston State: \_\_\_\_\_ IL

Zip Code: \_\_\_\_\_ 60201 Phone: \_\_\_\_\_ 847-448-8129

Contact: \_\_\_\_\_ Chris Venatta, PE

Email, if available: \_\_\_\_\_ cvenatta@cityofevanston.org

Site Operator

Name: \_\_\_\_\_ SAME

Street Address: \_\_\_\_\_

PO Box: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Zip Code: \_\_\_\_\_ Phone: \_\_\_\_\_

Contact: \_\_\_\_\_

Email, if available: \_\_\_\_\_

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed \$50,000 for the violation and an additional civil penalty of not to exceed \$10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.



Project Name: Main Street Evanston Latitude: 42.03396 Longitude: - 87.68055

Uncontaminated Soil Certification

**III. Basis for Certification and Attachments**

For each item listed below, reference the attachments to this form that provide the required information.

- a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a):

See attached Preliminary Site Investigation Report

- b. Analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to 35 Ill. Adm. Code Part 1100, Subpart F and that the soil pH is within the range of 6.25 to 9.0, including the documentation of chain of custody control, a copy of the lab analysis; the accreditation status of the laboratory performing the analysis; and certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental and the scope of the accreditation [35 Ill. Adm. Code 1100.201 (g), 1100.205(a), 1100.610]:

See attached Preliminary Site Investigation Report

**IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist**

I, Steven E. Kroll (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. In addition, I certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. All necessary documentation is attached.

*Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))*

Company Name: Patrick Engineering, Inc.  
Street Address: 4970 Varsity Drive  
City: Lisle State: IL Zip Code: 60532  
Phone: 630-795-7200

Steven E. Kroll  
Printed Name: \_\_\_\_\_

  
\_\_\_\_\_  
Licensed Professional Engineer or  
Licensed Professional Geologist Signature:

09/21/2022

Date:



## ACCESSIBLE PEDESTRIAN SIGNALS (APS) (BDE)

Effective: April 1, 2003

Revised: January 1, 2022

Description. This work shall consist of furnishing and installing accessible pedestrian signals (APS). Each APS shall consist of an interactive vibrotactile pedestrian pushbutton with speaker, an informational sign, a light emitting diode (LED) indicator light, a solid-state electronic control board, a power supply, wiring, and mounting hardware. The APS shall meet the requirements of the MUTCD and Sections 801 and 888 of the Standard Specifications, except as modified herein.

Electrical Requirements. The APS shall operate with systems providing 95 to 130 VAC, 60 Hz and throughout an ambient air temperature range of -29 to +160 °F (-34 to +70 °C).

The APS shall contain a power protection circuit consisting of both fuse and transient protection.

Audible Indications. A pushbutton locator tone shall sound at each pushbutton and shall be deactivated during the associated walk indication and when associated traffic signals are in flashing mode. Pushbutton locator tones shall have a duration of 0.15 seconds or less and shall repeat at 1-second intervals. Each actuation of the pushbutton shall be accompanied by the speech message "Wait".

If two accessible pedestrian pushbuttons are placed less than 10 ft (3 m) apart or placed on the same pole, the audible walk indication shall be a speech walk message. This message shall sound throughout the WALK interval only. The verbal message shall be modeled after: "Street Name.' Walk Sign is on to cross "Street Name." For signalized intersections utilizing exclusive pedestrian phasing, the verbal message shall be "Walk sign is on for all crossings". In addition, a speech pushbutton information message shall be provided by actuating the APS pushbutton when the WALK interval is not timing. This verbal message shall be modeled after: "Wait. Wait to cross 'Street Name.' at 'Street Name.'".

Where two accessible pedestrian pushbuttons are separated by at least 10 ft (3 m), the walk indication shall be an audible percussive tone. It shall repeat at 8 to 10 ticks per second with a dominant frequency of 880 Hz.

Automatic volume adjustments in response to ambient traffic sound level shall be provided up to a maximum volume of 100 dBA. Locator tone and verbal messages shall be no more than 5 dB louder than ambient sound.

At locations with railroad interconnection, an additional speech message stating "Walk time shortened when train approaches" shall be used after the speech walk message. At locations with emergency vehicle preemption, an additional speech message "Walk time shortened when emergency vehicle approaches" shall be used after the speech walk message.

Pedestrian Pushbutton. Pedestrian pushbuttons shall be at least 2 in. (50 mm) in diameter or width. The force required to activate the pushbutton shall be no greater than 3.5 lb (15.5 N).

A red LED shall be located on or near the pushbutton which, when activated, acknowledges the pedestrians request to cross the street.

Signage. A sign shall be located immediately above the pedestrian pushbutton and parallel to the crosswalk controlled by the pushbutton. The sign shall conform to one of the following standard MUTCD designs: R10-3, R10-3a, R10-3e, R10-3i, R10-4, and R10-4a.

Tactile Arrow. A tactile arrow, pointing in the direction of travel controlled by a pushbutton, shall be provided on the pushbutton.

Vibrotactile Feature. The pushbutton shall pulse when depressed and shall vibrate continuously throughout the WALK interval.

Method of Measurement. This work will be measured for payment as each, per pushbutton.

Basis of Payment. This work will be paid for at the contract unit price per each for ACCESSIBLE PEDESTRIAN SIGNALS.

80099

## AGGREGATE SUBGRADE IMPROVEMENT (BDE)

Effective: April 1, 2012

Revised: April 1, 2022

Add the following Section to the Standard Specifications:

### “SECTION 303. AGGREGATE SUBGRADE IMPROVEMENT

**303.01 Description.** This work shall consist of constructing an aggregate subgrade improvement (ASI).

**303.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate .....	1004.07
(b) Reclaimed Asphalt Pavement (RAP) .....	1031.09

**303.03 Equipment.** The vibratory roller shall be according to Article 1101.01, or as approved by the Engineer. Vibratory machines, such as tampers, shall be used in areas where rollers do not fit.

**303.04 Soil Preparation.** The minimum immediate bearing value (IBV) of the soil below the improved subgrade shall be according to the Department’s “Subgrade Stability Manual” for the aggregate thickness specified.

**303.05 Placing and Compacting.** The maximum nominal lift thickness of aggregate gradations CA 2, CA 6, and CA 10 when compacted shall be 9 in. (225 mm). The maximum nominal lift thickness of aggregate gradations CS 1, CS 2, and RR 1 when compacted shall be 24 in. (600 mm).

The top surface of the aggregate subgrade improvement shall consist of a layer of capping aggregate gradations CA 6 or CA 10 that is 3 in. (75 mm) thick after compaction. Capping aggregate will not be required when aggregate subgrade improvement is used as a cubic yard pay item for undercut applications.

Each lift of aggregate shall be compacted to the satisfaction of the Engineer. If the moisture content of the material is such that compaction cannot be obtained, sufficient water shall be added so that satisfactory compaction can be obtained.

**303.06 Finishing and Maintenance.** The aggregate subgrade improvement shall be finished to the lines, grades, and cross sections shown on the plans, or as directed by the Engineer. The aggregate subgrade improvement shall be maintained in a smooth and compacted condition.

**303.07 Method of Measurement.** This work will be measured for payment according to Article 311.08.

**303.08 Basis of Payment.** This work will be paid for at the contract unit price per cubic yard (cubic meter) or ton (metric ton) for AGGREGATE SUBGRADE IMPROVEMENT or at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE IMPROVEMENT, of the thickness specified.”

Add the following to Section 1004 of the Standard Specifications:

“**1004.07 Coarse Aggregate for Aggregate Subgrade Improvement (ASI).** The aggregate shall be according to Article 1004.01 and the following.

(a) Description. The coarse aggregate shall be crushed gravel, crushed stone, or crushed concrete. In applications where greater than 24 in. (600 mm) of ASI material is required, gravel may be used below the top 12 in (300 mm) of ASI.

(b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials.

(c) Gradation.

(1) The coarse aggregate gradation for total ASI thickness less than or equal to 12 in. (300 mm) shall be CA 2, CA 6, CA 10, or CS 1.

The coarse aggregate gradation for total ASI thickness greater than 12 in. (300 mm) shall be CS 1 or CS 2 as shown below or RR 1 according to Article 1005.01(c).

COARSE AGGREGATE SUBGRADE GRADATIONS					
Grad No.	Sieve Size and Percent Passing				
	8”	6”	4”	2”	#4
CS 1	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 2		100	80 ± 10	25 ± 15	

COARSE AGGREGATE SUBGRADE GRADATIONS (Metric)					
Grad No.	Sieve Size and Percent Passing				
	200 mm	150 mm	100 mm	50 mm	4.75 mm
CS 1	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 2		100	80 ± 10	25 ± 15	

(2) Capping aggregate shall be gradation CA 6 or CA 10.”

Add the following to Article 1031.09 of the Standard Specifications:

“(b) RAP in Aggregate Subgrade Improvement (ASI). RAP in ASI shall be according to Articles 1031.01(a), 1031.02(a), 1031.06(a)(1), and 1031.06(a)(2), and the following.

- (1) The testing requirements of Article 1031.03 shall not apply.
- (2) Crushed RAP used for the lower lift may be mechanically blended with aggregate gradations CS 1, CS 2, and RR 1 but it shall be no greater than 40 percent of the total product volume. RAP agglomerations shall be no greater than 4 in. (100 mm).
- (3) For capping aggregate, well graded RAP having 100 percent passing the 1 1/2 in. (38 mm) sieve may be used when aggregate gradations CS 1, CS 2, CA 2, or RR 1 are used in the lower lift. FRAP will not be permitted as capping material.

Blending shall be through calibrated interlocked feeders or a calibrated blending plant such that the prescribed blending percentage is maintained throughout the blending process. The calibration shall have an accuracy of  $\pm 2.0$  percent of the actual quantity of material delivered.”

80274

## BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE)

Effective: November 2, 2006

Revised: August 1, 2017

Description. Bituminous material cost adjustments will be made to provide additional compensation to the Contractor, or credit to the Department, for fluctuations in the cost of bituminous materials when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract.

The adjustments shall apply to permanent and temporary hot-mix asphalt (HMA) mixtures, bituminous surface treatments (cover and seal coats), and preventative maintenance type surface treatments that are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply to bituminous prime coats, tack coats, crack filling/sealing, joint filling/sealing, or extra work paid for at a lump sum price or by force account.

Method of Adjustment. Bituminous materials cost adjustments will be computed as follows.

$$CA = (BPI_P - BPI_L) \times (\%AC_V / 100) \times Q$$

- Where: CA = Cost Adjustment, \$.
- BPI<sub>P</sub> = Bituminous Price Index, as published by the Department for the month the work is performed, \$/ton (\$/metric ton).
- BPI<sub>L</sub> = Bituminous Price Index, as published by the Department for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price, \$/ton (\$/metric ton).
- %AC<sub>V</sub> = Percent of virgin Asphalt Cement in the Quantity being adjusted. For HMA mixtures, the % AC<sub>V</sub> will be determined from the adjusted job mix formula. For bituminous materials applied, a performance graded or cutback asphalt will be considered to be 100% AC<sub>V</sub> and undiluted emulsified asphalt will be considered to be 65% AC<sub>V</sub>.
- Q = Authorized construction Quantity, tons (metric tons) (see below).

For HMA mixtures measured in square yards:  $Q, \text{ tons} = A \times D \times (G_{mb} \times 46.8) / 2000$ . For HMA mixtures measured in square meters:  $Q, \text{ metric tons} = A \times D \times (G_{mb} \times 1) / 1000$ . When computing adjustments for full-depth HMA pavement, separate calculations will be made for the binder and surface courses to account for their different  $G_{mb}$  and % AC<sub>V</sub>.

For bituminous materials measured in gallons:  $Q, \text{ tons} = V \times 8.33 \text{ lb/gal} \times SG / 2000$   
For bituminous materials measured in liters:  $Q, \text{ metric tons} = V \times 1.0 \text{ kg/L} \times SG / 1000$

- Where: A = Area of the HMA mixture, sq yd (sq m).  
D = Depth of the HMA mixture, in. (mm).  
G<sub>mb</sub> = Average bulk specific gravity of the mixture, from the approved mix design.

V = Volume of the bituminous material, gal (L).  
SG = Specific Gravity of bituminous material as shown on the bill of lading.

Basis of Payment. Bituminous materials cost adjustments may be positive or negative but will only be made when there is a difference between the BPI<sub>L</sub> and BPI<sub>P</sub> in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(BPI_L - BPI_P) \div BPI_L\} \times 100$$

Bituminous materials cost adjustments will be calculated for each calendar month in which applicable bituminous material is placed; and will be paid or deducted when all other contract requirements for the work placed during the month are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

80173



## **BLENDED FINELY DIVIDED MINERALS (BDE)**

Effective: April 1, 2021

Revise the second paragraph of Article 1010.01 of the Standard Specifications to read:

“Different sources or types of finely divided minerals shall not be mixed or used alternately in the same item of construction, except as a blended finely divided mineral product according to Article 1010.06.”

Add the following article to Section 1010 of the Standard Specifications:

**“1010.06 Blended Finely Divided Minerals.** Blended finely divided minerals shall be the product resulting from the blending or intergrinding of two or three finely divided minerals. Blended finely divided minerals shall be according to ASTM C 1697, except as follows.

- (a) Blending shall be accomplished by mechanically or pneumatically intermixing the constituent finely divided minerals into a uniform mixture that is then discharged into a silo for storage or tanker for transportation.
- (b) The blended finely divided mineral product will be classified according to its predominant constituent or the manufacturer’s designation and shall meet the chemical requirements of its classification. The other finely divided mineral constituent(s) will not be required to conform to their individual standards.”

80436

## COMPENSABLE DELAY COSTS (BDE)

Effective: June 2, 2017

Revised: April 1, 2019

Revise Article 107.40(b) of the Standard Specifications to read:

“(b) Compensation. Compensation will not be allowed for delays, inconveniences, or damages sustained by the Contractor from conflicts with facilities not meeting the above definition; or if a conflict with a utility in an unanticipated location does not cause a shutdown of the work or a documentable reduction in the rate of progress exceeding the limits set herein. The provisions of Article 104.03 notwithstanding, compensation for delays caused by a utility in an unanticipated location will be paid according to the provisions of this Article governing minor and major delays or reduced rate of production which are defined as follows.

- (1) Minor Delay. A minor delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two hours, but not to exceed two weeks.
- (2) Major Delay. A major delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two weeks.
- (3) Reduced Rate of Production Delay. A reduced rate of production delay occurs when the rate of production on the work in conflict with the utility in an unanticipated location decreases by more than 25 percent and lasts longer than seven calendar days.”

Revise Article 107.40(c) of the Standard Specifications to read:

“(c) Payment. Payment for Minor, Major, and Reduced Rate of Production Delays will be made as follows.

- (1) Minor Delay. Labor idled which cannot be used on other work will be paid for according to Article 109.04(b)(1) and (2) for the time between start of the delay and the minimum remaining hours in the work shift required by the prevailing practice in the area.

Equipment idled which cannot be used on other work, and which is authorized to standby on the project site by the Engineer, will be paid for according to Article 109.04(b)(4).

- (2) Major Delay. Labor will be the same as for a minor delay.

Equipment will be the same as for a minor delay, except Contractor-owned equipment will be limited to two weeks plus the cost of move-out to either the

Contractor's yard or another job and the cost to re-mobilize, whichever is less. Rental equipment may be paid for longer than two weeks provided the Contractor presents adequate support to the Department (including lease agreement) to show retaining equipment on the job is the most economical course to follow and in the public interest.

- (3) Reduced Rate of Production Delay. The Contractor will be compensated for the reduced productivity for labor and equipment time in excess of the 25 percent threshold for that portion of the delay in excess of seven calendar days. Determination of compensation will be in accordance with Article 104.02, except labor and material additives will not be permitted.

Payment for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be determined according to Article 109.13.”

Revise Article 108.04(b) of the Standard Specifications to read:

“(b) No working day will be charged under the following conditions.

- (1) When adverse weather prevents work on the controlling item.
- (2) When job conditions due to recent weather prevent work on the controlling item.
- (3) When conduct or lack of conduct by the Department or its consultants, representatives, officers, agents, or employees; delay by the Department in making the site available; or delay in furnishing any items required to be furnished to the Contractor by the Department prevents work on the controlling item.
- (4) When delays caused by utility or railroad adjustments prevent work on the controlling item.
- (5) When strikes, lock-outs, extraordinary delays in transportation, or inability to procure critical materials prevent work on the controlling item, as long as these delays are not due to any fault of the Contractor.
- (6) When any condition over which the Contractor has no control prevents work on the controlling item.”

Revise Article 109.09(f) of the Standard Specifications to read:

“(f) Basis of Payment. After resolution of a claim in favor of the Contractor, any adjustment in time required for the work will be made according to Section 108. Any adjustment in the costs to be paid will be made for direct labor, direct materials, direct equipment, direct jobsite overhead, direct offsite overhead, and other direct costs allowed by the resolution. Adjustments in costs will not be made for interest charges, loss of anticipated profit, undocumented loss of efficiency, home office overhead and unabsorbed overhead

other than as allowed by Article 109.13, lost opportunity, preparation of claim expenses and other consequential indirect costs regardless of method of calculation.

The above Basis of Payment is an essential element of the contract and the claim cost recovery of the Contractor shall be so limited.”

Add the following to Section 109 of the Standard Specifications.

**“109.13 Payment for Contract Delay.** Compensation for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be allowed when such costs result from a delay meeting the criteria in the following table.

Contract Type	Cause of Delay	Length of Delay
Working Days	Article 108.04(b)(3) or Article 108.04(b)(4)	No working days have been charged for two consecutive weeks.
Completion Date	Article 108.08(b)(1) or Article 108.08(b)(7)	The Contractor has been granted a minimum two week extension of contract time, according to Article 108.08.

Payment for each of the various costs will be according to the following.

- (a) Escalated Material and/or Labor Costs. When the delay causes work, which would have otherwise been completed, to be done after material and/or labor costs have increased, such increases will be paid. Payment for escalated material costs will be limited to the increased costs substantiated by documentation furnished by the Contractor. Payment for escalated labor costs will be limited to those items in Article 109.04(b)(1) and (2), except the 35 percent and 10 percent additives will not be permitted.
- (b) Extended Project Overhead. For the duration of the delay, payment for extended project overhead will be paid as follows.
  - (1) Direct Jobsite and Offsite Overhead. Payment for documented direct jobsite overhead and documented direct offsite overhead, including onsite supervisory and administrative personnel, will be allowed according to the following table.

Original Contract Amount	Supervisory and Administrative Personnel
Up to \$5,000,000	One Project Superintendent
Over \$ 5,000,000 - up to \$25,000,000	One Project Manager, One Project Superintendent or Engineer, and One Clerk
Over \$25,000,000 - up to \$50,000,000	One Project Manager, One Project Superintendent, One Engineer, and

	One Clerk
Over \$50,000,000	One Project Manager, Two Project Superintendents, One Engineer, and One Clerk

(2) Home Office and Unabsorbed Overhead. Payment for home office and unabsorbed overhead will be calculated as 8 percent of the total delay cost.

(c) Extended Traffic Control. Traffic control required for an extended period of time due to the delay will be paid for according to Article 109.04.

When an extended traffic control adjustment is paid under this provision, an adjusted unit price as provided for in Article 701.20(a) for increase or decrease in the value of work by more than ten percent will not be paid.

Upon payment for a contract delay under this provision, the Contractor shall assign subrogation rights to the Department for the Department's efforts of recovery from any other party for monies paid by the Department as a result of any claim under this provision. The Contractor shall fully cooperate with the Department in its efforts to recover from another party any money paid to the Contractor for delay damages under this provision."

80384

## CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010

Revised: November 1, 2014

The reduction of emissions of particulate matter (PM) for off-road equipment shall be accomplished by installing retrofit emission control devices. The term “equipment” refers to diesel fuel powered devices rated at 50 hp and above, to be used on the jobsite in excess of seven calendar days over the course of the construction period on the jobsite (including rental equipment).

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted using the phased in approach shown below. Equipment that is of a model year older than the year given for that equipment’s respective horsepower range shall be retrofitted:

Effective Dates	Horsepower Range	Model Year
June 1, 2010 <sup>1/</sup>	600-749	2002
	750 and up	2006
June 1, 2011 <sup>2/</sup>	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006
June 1, 2012 <sup>2/</sup>	50-99	2004
	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006

1/ Effective dates apply to Contractor diesel powered off-road equipment assigned to the contract.

2/ Effective dates apply to Contractor and subcontractor diesel powered off-road equipment assigned to the contract.

The retrofit emission control devices shall achieve a minimum PM emission reduction of 50 percent and shall be:

- a) Included on the U.S. Environmental Protection Agency (USEPA) *Verified Retrofit Technology List* (<http://www.epa.gov/cleandiesel/verification/verif-list.htm>), or verified by the California Air Resources Board (CARB) (<http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>); or
- b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit

device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

Note: Large cranes (Crawler mounted cranes) which are responsible for critical lift operations are exempt from installing retrofit emission control devices if such devices adversely affect equipment operation.

Diesel powered off-road equipment with engine ratings of 50 hp and above, which are unable to be retrofitted with verified emission control devices or if performance certifications are not available which will achieve a minimum 50 percent PM reduction, may be granted a waiver by the Department if documentation is provided showing good faith efforts were made by the Contractor to retrofit the equipment.

Construction shall not proceed until the Contractor submits a certified list of the diesel powered off-road equipment that will be used, and as necessary, retrofitted with emission control devices. The list(s) shall include (1) the equipment number, type, make, Contractor/rental company name; and (2) the emission control devices make, model, USEPA or CARB verification number, or performance certification from the retrofit device manufacturer. Equipment reported as fitted with emissions control devices shall be made available to the Engineer for visual inspection of the device installation, prior to being used on the jobsite.

The Contractor shall submit an updated list of retrofitted off-road construction equipment as retrofitted equipment changes or comes on to the jobsite. The addition or deletion of any diesel powered equipment shall be included on the updated list.

If any diesel powered off-road equipment is found to be in non-compliance with any portion of this special provision, the Engineer will issue the Contractor a diesel retrofit deficiency deduction.

Any costs associated with retrofitting any diesel powered off-road equipment with emission control devices shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed. The Contractor's compliance with this notice and any associated regulations shall not be grounds for a claim.

### **Diesel Retrofit Deficiency Deduction**

When the Engineer determines that a diesel retrofit deficiency exists, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be \$1,000.00 for each deficiency identified.

The deficiency will be based on lack of diesel retrofit emissions control.

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected.

Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

80261



## **DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)**

Effective: September 1, 2000

Revised: March 2, 2019

FEDERAL OBLIGATION. The Department of Transportation, as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR Part 26 apply to this contract concerning the utilization of disadvantaged business enterprises. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified by the Department in accordance with the requirements of 49 CFR Part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory.

STATE OBLIGATION. This Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. When this Special Provision is used to satisfy state law requirements on 100 percent state-funded contracts, the federal government has no involvement in such contracts (not a federal-aid contract) and no responsibility to oversee the implementation of this Special Provision by the Department on those contracts. DBE participation on 100 percent state-funded contracts will not be credited toward fulfilling the Department's annual overall DBE goal required by the US Department of Transportation to comply with the federal DBE program requirements.

CONTRACTOR ASSURANCE. The Contractor makes the following assurance and agrees to include the assurance in each subcontract 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, which may include, but is not limited to:

- (a) Withholding progress payments;
- (b) Assessing sanctions;
- (c) Liquidated damages; and/or
- (d) Disqualifying the Contractor from future bidding as non-responsible.

OVERALL GOAL SET FOR THE DEPARTMENT. As a requirement of compliance with 49 CFR Part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a

good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. The determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates, in the absence of unlawful discrimination and in an arena of fair and open competition, DBE companies can be expected to perform 18.00 % of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

- (a) The bidder documents enough DBE participation has been obtained to meet the goal or,
- (b) The bidder documents a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

DBE LOCATOR REFERENCES. Bidders shall consult the IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217) 785-4611, or by visiting the Department's website at:

<http://www.idot.illinois.gov/doing-business/certifications/disadvantaged-business-enterprise-certification/il-ucp-directory/index>.

BIDDING PROCEDURES. Compliance with this Special Provision is a material bidding requirement and failure of the bidder to comply will render the bid not responsive.

The bidder shall submit a DBE Utilization Plan (form SBE 2026), and a DBE Participation Statement (form SBE 2025) for each DBE company proposed for the performance of work to achieve the contract goal, with the bid. If the Utilization Plan indicates the contract goal will not be met, documentation of good faith efforts shall also be submitted. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor is selected over a DBE for work on the contract. The required forms and documentation must be submitted as a single .pdf file using the "Integrated Contractor Exchange (iCX)" application within the Department's "EBids System".

The Department will not accept a Utilization Plan if it does not meet the bidding procedures set forth herein and the bid will be declared not responsive. In the event the bid is declared not responsive, 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.

GOOD FAITH EFFORT PROCEDURES. The contract will not be awarded until the Utilization Plan is approved. All information submitted by the bidder must be complete, accurate and adequately document enough DBE participation has been obtained or document the good faith efforts of the bidder, in the event enough DBE participation has not been obtained, before the Department will commit to the performance of the contract by the bidder. The Utilization Plan will be approved by the Department if the Utilization Plan documents sufficient commercially useful DBE work to meet the contract goal or the bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A. This means the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which, by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not successful. The Department will consider the quality, quantity, and intensity of the kinds of efforts the bidder has made. Mere *pro forma* efforts, in other words efforts done as a matter of form, are not good faith efforts; rather, the bidder is expected to have taken genuine efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

- (a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases and will be considered by the Department.
  - (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.
  - (2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the 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. In accordance with the above Bidding Procedures, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.
- (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 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 it is otherwise eligible for award. If the Department determines the

bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification will also include a statement of reasons for the adverse determination. If the Utilization Plan is not approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period to cure the deficiency.

- (c) The bidder may request administrative reconsideration of an adverse determination by emailing the Department at "[DOT.DBE.UP@illinois.gov](mailto:DOT.DBE.UP@illinois.gov)" within the five calendar days after the receipt of the notification of the determination. The determination shall become final if a request is not made on or before the fifth calendar day. A request may provide additional written documentation or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be reviewed by the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for 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.

**CALCULATING DBE PARTICIPATION.** The Utilization Plan values represent work anticipated to be performed and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE companies. In addition, a DBE must perform a commercially useful function on the contract to be counted. A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR Part 26.55(c) on questions of commercially useful functions as it affects the work. Specific counting guidelines are provided in 49 CFR Part 26.55, the provisions of which govern over the summary contained herein.

- (a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.
- (b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.

- (c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.
- (d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:
  - (1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
  - (2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement.
- (e) DBE as a material supplier:
  - (1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
  - (2) 100 percent goal credit for the cost of materials or supplies obtained from a DBE manufacturer.
  - (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a DBE regular dealer or DBE manufacturer.

**CONTRACT COMPLIANCE.** Compliance with this Special Provision is an essential part of the contract. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan. After approval of the Utilization Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the Contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal. All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the DBE Participation Commitment Statement.

- (a) NO AMENDMENT. No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be emailed to the Department at [DOT.DBE.UP@illinois.gov](mailto:DOT.DBE.UP@illinois.gov).
- (b) CHANGES TO WORK. Any deviation from the DBE condition-of-award or contract plans, specifications, or special provisions must be approved, in writing, by the Department as provided elsewhere in the Contract. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract. Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A or AER 260A, must be signed and submitted. If the commitment of work is in the form of additional tasks assigned to an existing subcontract, a new Request for Approval of Subcontractor will not be required. However, the Contractor must document efforts to assure the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.
- (c) SUBCONTRACT. The Contractor must provide copies of DBE subcontracts to the Department upon request. Subcontractors shall ensure that all lower tier subcontracts or agreements with DBEs to supply labor or materials be performed in accordance with this Special Provision.
- (d) ALTERNATIVE WORK METHODS. In addition to the above requirements for reductions in the condition of award, additional requirements apply to the two cases of Contractor-initiated work substitution proposals. Where the contract allows alternate work methods which serve to delete or create underruns in condition of award DBE work, and the Contractor selects that alternate method or, where the Contractor proposes a substitute work method or material that serves to diminish or delete work committed to a DBE and replace it with other work, then the Contractor must demonstrate one of the following:
- (1) The replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or
  - (2) The DBE is aware its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or
  - (3) The DBE is not capable of performing the replacement work or has declined to perform the work at a reasonable competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.

- (e) TERMINATION AND REPLACEMENT PROCEDURES. The Contractor shall not terminate or replace a DBE listed on the approved Utilization Plan, or perform with other forces work designated for a listed DBE except as provided in this Special Provision. The Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the Contractor obtains the Department's written consent as provided in subsection (a) of this part. Unless Department consent is provided for termination of a DBE subcontractor, the Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the DBE in the Utilization Plan.

As stated above, the Contractor shall not terminate or replace a DBE subcontractor listed in the approved Utilization Plan without prior written consent. This includes, but is not limited to, instances in which the Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Written consent will be granted only if the Bureau of Small Business Enterprises agrees, for reasons stated in its concurrence document, that the Contractor has good cause to terminate or replace the DBE firm. Before transmitting to the Bureau of Small Business Enterprises any request to terminate and/or substitute a DBE subcontractor, the Contractor shall give notice in writing to the DBE subcontractor, with a copy to the Bureau, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor shall give the DBE five days to respond to the Contractor's notice. The DBE so notified shall advise the Bureau and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Bureau should not approve the Contractor's action. If required in a particular case as a matter of public necessity, the Bureau may provide a response period shorter than five days.

For purposes of this paragraph, good cause includes the following circumstances:

- (1) The listed DBE subcontractor fails or refuses to execute a written contract;
- (2) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Contractor;
- (3) The listed DBE subcontractor fails or refuses to meet the Contractor's reasonable, nondiscriminatory bond requirements;
- (4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law.



- (6) The Contractor has determined the listed DBE subcontractor is not a responsible contractor;
- (7) The listed DBE subcontractor voluntarily withdraws from the projects and provides written notice to the Contractor of its withdrawal;
- (8) The listed DBE is ineligible to receive DBE credit for the type of work required;
- (9) A DBE owner dies or becomes disabled with the result that the listed DBE subcontractor is unable to complete its work on the contract;
- (10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the Contractor can self-perform the work for which the DBE contractor was engaged or so that the Contractor can substitute another DBE or non-DBE contractor after contract award.

When a DBE is terminated or fails to complete its work on the Contract for any reason, the Contractor shall make a good faith effort to find another DBE to substitute for the original DBE to perform at least the same amount of work under the contract as the terminated DBE to the extent needed to meet the established Contract goal. The good faith efforts shall be documented by the Contractor. If the Department requests documentation under this provision, the Contractor shall submit the documentation within seven days, which may be extended for an additional seven days if necessary at the request of the Contractor. The Department will provide a written determination to the Contractor stating whether or not good faith efforts have been demonstrated.

- (f) FINAL PAYMENT. After the performance of the final item of work or delivery of material by a DBE and final payment therefore to the DBE by the Contractor, but not later than 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 Agreement on Department form SBE 2115 to the Resident Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes 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 Utilization Plan and after good faith efforts are reviewed, the Department may deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages. The Contractor may request an administrative reconsideration of any amount deducted as damages pursuant to subsection (h) of this part.
- (g) ENFORCEMENT. The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be

made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.

- (h) RECONSIDERATION. Notwithstanding any other provision of the contract, including but not limited to Article 109.09 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of “Good Faith Effort Procedures” of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the Department. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

80029

## PERFORMANCE GRADED ASPHALT BINDER (BDE)

Effective: January 1, 2023

Revise Article 1032.05 of the Standard Specifications to read:

**“1032.05 Performance Graded Asphalt Binder.** These materials will be accepted according to the Bureau of Materials Policy Memorandum, “Performance Graded Asphalt Binder Qualification Procedure.” The Department will maintain a qualified producer list. These materials shall be free from water and shall not foam when heated to any temperature below the actual flash point. Air blown asphalt, recycle engine oil bottoms (ReOB), and polyphosphoric acid (PPA) modification shall not be used.

When requested, producers shall provide the Engineer with viscosity/temperature relationships for the performance graded asphalt binders delivered and incorporated in the work.

- (a) Performance Graded (PG) Asphalt Binder. The asphalt binder shall meet the requirements of AASHTO M 320, Table 1 “Standard Specification for Performance Graded Asphalt Binder” for the grade shown on the plans and the following.

Test	Parameter
Small Strain Parameter (AASHTO PP 113) BBR, $\Delta T_c$ , 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	-5 °C min.

- (b) Modified Performance Graded (PG) Asphalt Binder. The asphalt binder shall meet the requirements of AASHTO M 320, Table 1 “Standard Specification for Performance Graded Asphalt Binder” for the grade shown on the plans.

Asphalt binder modification shall be performed at the source, as defined in the Bureau of Materials Policy Memorandum, “Performance Graded Asphalt Binder Qualification Procedure.”

Modified asphalt binder shall be safe to handle at asphalt binder production and storage temperatures or HMA construction temperatures. Safety Data Sheets (SDS) shall be provided for all asphalt modifiers.

- (1) Polymer Modification (SB/SBS or SBR). Elastomers shall be added to the base asphalt binder to achieve the specified performance grade and shall be either a styrene-butadiene diblock, triblock copolymer without oil extension, or a styrene-butadiene rubber. The polymer modified asphalt binder shall be smooth, homogeneous, and be according to the requirements shown in Table 1 or 2 for the grade shown on the plans.

Table 1 - Requirements for Styrene-Butadiene Copolymer (SB/SBS) Modified Asphalt Binders		
Test	Asphalt Grade SB/SBS PG 64-28 SB/SBS PG 70-22	Asphalt Grade SB/SBS PG 64-34 SB/SBS PG 70-28 SB/SBS PG 76-22 SB/SBS PG 76-28
Separation of Polymer ITP, "Separation of Polymer from Asphalt Binder" Difference in °F (°C) of the softening point between top and bottom portions	4 (2) max.	4 (2) max.
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	60 min.	70 min.

Table 2 - Requirements for Styrene-Butadiene Rubber (SBR) Modified Asphalt Binders		
Test	Asphalt Grade SBR PG 64-28 SBR PG 70-22	Asphalt Grade SB/SBS PG 64-34 SB/SBS PG 70-28 SBR PG 76-22 SBR PG 76-28
Separation of Polymer ITP, "Separation of Polymer from Asphalt Binder" Difference in °F (°C) of the softening point between top and bottom portions	4 (2) max.	4 (2) max.
Toughness ASTM D 5801, 77 °F (25 °C), 20 in./min. (500 mm/min.), in.-lbs (N-m)	110 (12.5) min.	110 (12.5) min.
Tenacity ASTM D 5801, 77 °F (25 °C), 20 in./min. (500 mm/min.), in.-lbs (N-m)	75 (8.5) min.	75 (8.5) min.
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	40 min.	50 min.

- (2) Ground Tire Rubber (GTR) Modification. GTR modification is the addition of recycled ground tire rubber to liquid asphalt binder to achieve the specified performance grade. GTR shall be produced from processing automobile and/or truck tires by the ambient

grinding method or micronizing through a cryogenic process. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall not contain free metal particles, moisture that would cause foaming of the asphalt, or other foreign materials. A mineral powder (such as talc) meeting the requirements of AASHTO M 17 may be added, up to a maximum of four percent by weight of GTR to reduce sticking and caking of the GTR particles. When tested in accordance with Illinois Modified AASHTO T 27 “Standard Method of Test for Sieve Analysis of Fine and Coarse Aggregates” or AASHTO PP 74 “Standard Practice for Determination of Size and Shape of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method”, a 50 g sample of the GTR shall conform to the following gradation requirements.

Sieve Size	Percent Passing
No. 16 (1.18 mm)	100
No. 30 (600 µm)	95 ± 5
No. 50 (300 µm)	> 20

GTR modified asphalt binder shall be tested for rotational viscosity according to AASHTO T 316 using spindle S27. GTR modified asphalt binder shall be tested for original dynamic shear and RTFO dynamic shear according to AASHTO T 315 using a gap of 2 mm.

The GTR modified asphalt binder shall meet the requirements of Table 3.

Table 3 - Requirements for Ground Tire Rubber (GTR) Modified Asphalt Binders		
Test	Asphalt Grade GTR PG 64-28 GTR PG 70-22	Asphalt Grade GTR PG 76-22 GTR PG 76-28 GTR PG 70-28
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	60 min.	70 min.

- (3) Softener Modification (SM). Softener modification is the addition of organic compounds, such as engineered flux, bio-oil blends, modified vegetable oils, glycol amines, and fatty acid derivatives, to the base asphalt binder to achieve the specified performance grade. Softeners shall be dissolved, dispersed, or reacted in the asphalt binder to enhance its performance and shall remain compatible with the asphalt binder with no separation. Softeners shall not be added to modified PG asphalt binder as defined in Articles 1032.05(b)(1) or 1032.05(b)(2).

An Attenuated Total Reflectance-Fourier Transform Infrared spectrum (ATR-FTIR) shall be collected for both the softening compound as well as the softener modified

asphalt binder at the dose intended for qualification. The ATR-FTIR spectra shall be collected on unaged softener modified binder, 20-hour Pressurized Aging Vessel (PAV) aged softener modified binder, and 40-hour PAV aged softener modified binder. The ATR-FTIR shall be collected in accordance with Illinois Test Procedure 601. The electronic files spectral files (in one of the following extensions or equivalent: \*.SPA, \*.SPG, \*.IRD, \*.IFG, \*.CSV, \*.SP, \*.IRS, \*.GAML, \*. [0-9], \*.IGM, \*.ABS, \*.DRT, \*.SBM, \*.RAS) shall be submitted to the Central Bureau of Materials.

Softener modified asphalt binders shall meet the requirements in Table 4.

Test	Asphalt Grade	
	SM PG 46-28	SM PG 46-34
	SM PG 52-28	SM PG 52-34
	SM PG 58-22	SM PG 58-28
	SM PG 64-22	
Small Strain Parameter (AASHTO PP 113) BBR, $\Delta T_c$ , 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	-5°C min.	
Large Strain Parameter (Illinois Modified AASHTO T 391) DSR/LAS Fatigue Property, $\Delta G^* _{peak}$ , 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	≥ 54 %	

The following grades may be specified as tack coats.

Asphalt Grade	Use
PG 58-22, PG 58-28, PG 64-22	Tack Coat"

Revise Article 1031.06(c)(1) and 1031.06(c)(2) of the Standard Specifications to read:

“(1) RAP/RAS. When RAP is used alone or RAP is used in conjunction with RAS, the percentage of virgin ABR shall not exceed the amounts listed in the following table.

Ndesign	Binder	Surface	Polymer Modified Binder or Surface <sup>3/</sup>
30	30	30	10
50	25	15	10
70	15	10	10
90	10	10	10

1/ For Low ESAL HMA shoulder and stabilized subbase, the RAP/RAS ABR shall not exceed 50 percent of the mixture.

- 2/ When RAP/RAS ABR exceeds 20 percent, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).
  - 3/ The maximum ABR percentages for ground tire rubber (GTR) modified mixes shall be equivalent to the percentages specified for SBS/SBR polymer modified mixes.
- (2) FRAP/RAS. When FRAP is used alone or FRAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the following table.

HMA Mixtures - FRAP/RAS Maximum ABR % <sup>1/2/</sup>			
Ndesign	Binder	Surface	Polymer Modified Binder or Surface <sup>3/</sup>
30	55	45	15
50	45	40	15
70	45	35	15
90	45	35	15
SMA	--	--	25
IL-4.75	--	--	35

- 1/ For Low ESAL HMA shoulder and stabilized subbase, the FRAP/RAS ABR shall not exceed 50 percent of the mixture.
- 2/ When FRAP/RAS ABR exceeds 20 percent for all mixes, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).
- 3/ The maximum ABR percentages for GTR modified mixes shall be equivalent to the percentages specified for SBS/SBR polymer modified mixes.”

Add the following to the end of Note 2 of Article 1030.03 of the Standard Specifications.

“A dedicated storage tank for the ground tire rubber (GTR) modified asphalt binder shall be provided. This tank shall be capable of providing continuous mechanical mixing throughout and/or recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the temperature of the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ±0.40 percent.”

## **SOURCE OF SUPPLY AND QUALITY REQUIREMENTS (BDE)**

Effective: January 2, 2023

Add the following to Article 106.01 of the Standard Specifications:

“The final manufacturing process for construction materials and the immediately preceding manufacturing stage for construction materials shall occur within the United States. Construction materials shall include an article, material, or supply that is or consists primarily of the following.

- (a) Non-ferrous metals;
- (b) Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- (c) Glass (including optic glass);
- (d) Lumber;
- (e) Drywall.

Items consisting of two or more of the listed construction materials that have been combined through a manufacturing process, and items including at least one of the listed materials combined with a material that is not listed through a manufacturing process shall be exempt.”

80448



## **SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)**

Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

**“109.14 Subcontractor and Disadvantaged Business Enterprise Payment Reporting.**  
The Contractor shall report all payments made to the following parties:

- (a) first tier subcontractors;
- (b) lower tier subcontractors affecting disadvantaged business enterprise (DBE) goal credit;
- (c) material suppliers or trucking firms that are part of the Contractor’s submitted DBE utilization plan.

The report shall be made through the Department’s on-line subcontractor payment reporting system within 21 days of making the payment.”

80397

## **SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)**

Effective: November 2, 2017

Revised: April 1, 2019

Replace the second paragraph of Article 109.12 of the Standard Specifications with the following:

“This mobilization payment shall be made at least seven days prior to the subcontractor starting work. The amount paid shall be at the following percentage of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor’s work.

Value of Subcontract Reported on Form BC 260A	Mobilization Percentage
Less than \$10,000	25%
\$10,000 to less than \$20,000	20%
\$20,000 to less than \$40,000	18%
\$40,000 to less than \$60,000	16%
\$60,000 to less than \$80,000	14%
\$80,000 to less than \$100,000	12%
\$100,000 to less than \$250,000	10%
\$250,000 to less than \$500,000	9%
\$500,000 to \$750,000	8%
Over \$750,000	7%”

80391

## **SUBMISSION OF PAYROLL RECORDS (BDE)**

Effective: April 1, 2021

Revised: November 1, 2022

FEDERAL AID CONTRACTS. Revise the following section of Check Sheet #1 of the Recurring Special Provisions to read:

### **“STATEMENTS AND PAYROLLS**

The payroll records shall include the worker’s name, the worker’s address, the worker’s telephone number when available, the worker’s social security number, the worker’s classification or classifications, the worker’s gross and net wages paid in each pay period, the worker’s number of hours worked each day, and the worker’s starting and ending times of work each day. However, any Contractor or subcontractor who remits contributions to a fringe benefit fund that is not jointly maintained and jointly governed by one or more employers and one or more labor organization must additionally submit the worker’s hourly wage rate, the worker’s hourly overtime wage rate, the worker’s hourly fringe benefit rates, the name and address of each fringe benefit fund, the plan sponsor of each fringe benefit, if applicable, and the plan administrator of each fringe benefit, if applicable.

The Contractor and each subcontractor shall certify and submit payroll records to the Department each week from the start to the completion of their respective work, except that full social security numbers shall not be included on weekly submittals. Instead, the payrolls shall include an identification number for each employee (e.g., the last four digits of the employee’s social security number). In addition, starting and ending times of work each day may be omitted from the payroll records submitted. The submittals shall be made using LCPTracker Pro software. The software is web-based and can be accessed at <https://lcptracker.com/>. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate option (“No Work”, “Suspended”, or “Complete”) selected.”

STATE CONTRACTS. Revise Item 3 of Section IV of Check Sheet #5 of the Recurring Special Provisions to read:

- “3. Submission of Payroll Records. The Contractor and each subcontractor shall, no later than the 15<sup>th</sup> day of each calendar month, file a certified payroll for the immediately preceding month to the Illinois Department of Labor (IDOL) through the Illinois Prevailing Wage Portal in compliance with the State Prevailing Wage Act (820 ILCS 130). The portal can be found on the IDOL website at <https://www2.illinois.gov/idol/Laws-Rules/CONMED/Pages/Prevailing-Wage-Portal.aspx>. Payrolls shall be submitted in the format prescribed by the IDOL.

In addition to filing certified payroll(s) with the IDOL, the Contractor and each subcontractor shall certify and submit payroll records to the Department each week from the start to the completion of their respective work, except that full social security numbers shall not be included on weekly submittals. Instead, the payrolls shall include an

identification number for each employee (e.g., the last four digits of the employee's social security number). In addition, starting and ending times of work each day may be omitted from the payroll records submitted. The submittals shall be made using LCPtracker Pro software. The software is web-based and can be accessed at <https://lcptracker.com/>. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate option ("No Work", "Suspended", or "Complete") selected."

80437

## **SURFACE TESTING OF PAVEMENTS – IRI (BDE)**

Effective: January 1, 2021

Revised: January 1, 2023

Description. This work shall consist of testing the ride quality of the finished surface of pavement sections with new concrete pavement, PCC overlays, full-depth HMA, and HMA overlays with at least 2.25 in. (57 mm) total thickness of new HMA combined with either HMA binder or HMA surface removal, according to Illinois Test Procedure 701, "Ride Quality Testing Using the International Roughness Index (IRI)". Work shall be according to Sections 406, 407, or 420 of the Standard Specifications, except as modified herein.

### **Hot-Mix Asphalt (HMA) Overlays**

Add the following to Article 406.03 of the Standard Specifications:

"(n) Pavement Surface Grinding Equipment..... 1101.04"

Revise Article 406.11 of the Standard Specifications to read:

**"406.11 Surface Tests.** Prior to HMA overlay pavement improvements, the Engineer will measure the smoothness of the existing high-speed mainline pavement. The Contractor shall measure the smoothness of the finished high-speed mainline, low-speed mainline, and miscellaneous pavements after the pavement improvement is complete but within the same construction season. Testing shall be performed in the presence of the Engineer and according to Illinois Test Procedure 701. The pavement will be identified as high-speed mainline, low-speed mainline, or miscellaneous as follows.

(a) Test Sections.

- (1) High-Speed Mainline Pavement. High-speed mainline pavement consists of pavements, ramps, and loops with a posted speed limit greater than 45 mph. These sections shall be tested with an inertial profiling system (IPS).
- (2) Low-Speed Mainline Pavement. Low-speed mainline pavement consists of pavements, ramps, and loops with a posted speed limit of 45 mph or less. These sections shall be tested using a 16 ft (5 m) straightedge or with an IPS analyzed using the rolling 16 ft (5 m) straightedge simulation in ProVAL.
- (3) Miscellaneous Pavement. Miscellaneous pavement are segments that either cannot readily be tested by an IPS or conditions beyond the control of the Contractor preclude the achievement of smoothness levels typically achievable with mainline pavement construction. This may include the following examples or as determined by the Engineer.

- a. Pavement on horizontal curves with a centerline radius of curvature of less than or equal to 1,000 ft (300 m) and the pavement within the superelevation transition of such curves;
- b. Pavement on vertical curves having a length less than or equal to 200 ft (60 m) in combination with an algebraic change in tangent grade greater than or equal to 3 percent as may occur on urban ramps or other constricted-space facilities;
- c. The first and last 50 ft (15 m) of a pavement section where the Contractor is not responsible for the adjoining surface;
- d. Intersections and the 25 ft (7.6 m) before and after an intersection or end of radius return;
- e. Variable width pavements;
- f. Side street returns, to the end of radius return;
- g. Crossovers;
- h. Pavement connector for bridge approach slab;
- i. Bridge approach slab;
- j. Pavement that must be constructed in segments of 600 ft (180 m) or less;
- k. Pavement within 25 ft (7.6 m) of manholes, utility structures, at-grade railroad crossings, or other appurtenances;
- l. Turn lanes; and
- m. Pavement within 5 ft (1.5 m) of jobsite sampling locations for HMA volumetric testing that fall within the wheel path.

Miscellaneous pavement shall be tested using a 16 ft (5 m) straightedge.

- (4) International Roughness Index (IRI). An index computed from a longitudinal profile measurement using a quarter-car simulation at a simulation speed of 50 mph (80 km/h).
- (5) Mean Roughness Index (MRI). The average of the IRI values for the right and left wheel tracks.
  - a.  $MRI_0$ . The MRI of the existing pavement prior to construction.
  - b.  $MRI_i$ . The MRI value that warrants an incentive payment.

- c. MRI<sub>F</sub>. The MRI value that warrants full payment.
  - d. MRI<sub>D</sub>. The MRI value that warrants a financial disincentive.
- (6) Areas of Localized Roughness (ALR). Isolated areas of roughness, which can cause significant increase in the calculated MRI for a given subplot.
- (7) Sublot. A continuous strip of pavement 0.1 mile (160 m) long and one lane wide. A partial subplot greater than or equal to 264 ft (80 m) will be subject to the same evaluation as a whole subplot. Partial sublots less than 264 ft (80 m) shall be included with the previous subplot for evaluation purposes.
- (b) Corrective Work. Corrective work shall be completed according to the following.
- (1) High-Speed Mainline Pavement. For high-speed mainline pavement, any 25 ft (7.6 m) interval with an ALR in excess of 200 in./mile (3,200 mm/km) will be identified by the Engineer and shall be corrected by the Contractor. Any subplot having a MRI greater than MRI<sub>D</sub>, including ALR, shall be corrected to reduce the MRI to the MRI<sub>F</sub>, or replaced at the Contractor's option.
  - (2) Low-Speed Mainline Pavement. Surface variations in low-speed mainline pavement which exceed the 5/16 in. (8 mm) tolerance will be identified by the Engineer and shall be corrected by the Contractor.
  - (3) Miscellaneous Pavements. Surface variations in miscellaneous pavement which exceed the 5/16 in. (8 mm) tolerance will be identified by the Engineer and shall be corrected by the Contractor.

Corrective work shall be completed with pavement surface grinding equipment or by removing and replacing the pavement. Corrective work shall be applied to the full lane width. When completed, the corrected area shall have uniform texture and appearance, with the beginning and ending of the corrected area perpendicular to the centerline of the paved surface.

Upon completion of the corrective work, the surface of the subplot(s) shall be retested. The Contractor shall furnish the data and reports to the Engineer within 2 working days after corrections are made. If the MRI and/or ALR still do not meet the requirements, additional corrective work shall be performed.

Corrective work shall be at no additional cost to the Department.

- (c) Smoothness Assessments. Assessments will be paid to or deducted from the Contractor for each subplot of high-speed mainline pavement per the Smoothness Assessment Schedule. Assessments will be based on the MRI of each subplot prior to performing any corrective work unless the Contractor has chosen to remove and replace the pavement.

For pavement that is replaced, assessments will be based on the MRI determined after replacement.

The upper MRI thresholds for high-speed mainline pavement are dependent on the MRI of the existing pavement before construction ( $MRI_0$ ) and shall be determined as follows.

Upper MRI Thresholds <sup>1/</sup>	MRI Thresholds (High-Speed, HMA Overlay)	
	$MRI_0 \leq 125.0$ in./mile ( $\leq 1,975$ mm/km)	$MRI_0 > 125.0$ in./mile <sup>1/</sup> ( $> 1,975$ mm/km)
Incentive ( $MRI_I$ )	45.0 in./mile (710 mm/km)	$0.2 \times MRI_0 + 20$
Full Pay ( $MRI_F$ )	75.0 in./mile (1,190 mm/km)	$0.2 \times MRI_0 + 50$
Disincentive ( $MRI_D$ )	100.0 in./mile (1,975 mm/km)	$0.2 \times MRI_0 + 75$

1/  $MRI_0$ ,  $MRI_I$ ,  $MRI_F$ , and  $MRI_D$  shall be in in./mile for calculation.

Smoothness assessments for high-speed mainline pavement shall be determined as follows.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, HMA Overlay)	
Mainline Pavement MRI Range	Assessment Per Sublot <sup>1/</sup>
$MRI \leq MRI_I$	$+ (MRI_I - MRI) \times \$20.00$ <sup>2/</sup>
$MRI_I < MRI \leq MRI_F$	$+ \$0.00$
$MRI_F < MRI \leq MRI_D$	$- (MRI - MRI_F) \times \$8.00$
$MRI > MRI_D$	$- \$200.00$

1/  $MRI$ ,  $MRI_I$ ,  $MRI_F$ , and  $MRI_D$  shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed \$300.00.

Smoothness assessments will not be paid or deducted until all other contract requirements for the pavement are satisfied. Pavement that is corrected or replaced for reasons other than smoothness, shall be retested as stated herein.”

### **Hot-Mix Asphalt (HMA) Pavement (Full-Depth)**

Revise the first paragraph of Article 407.03 of the Standard Specifications to read:

**“407.03 Equipment.** Equipment shall be according to Article 406.03.”

Revise Article 407.09 of the Standard Specifications to read:

**“407.09 Surface Tests.** The finished surface of the pavement shall be tested for smoothness



according to Article 406.11, except as follows:

The testing of the existing pavement prior to improvements shall not apply and the smoothness assessment for high-speed mainline pavement shall be determined according to the following table.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, Full-Depth HMA)	
Mainline Pavement MRI, in./mile (mm/km)	Assessment Per Sublot <sup>1/</sup>
≤ 45.0 (710)	+ (45 – MRI) × \$45.00 <sup>2/</sup>
> 45.0 (710) to 75.0 (1,190)	+ \$0.00
> 75.0 (1,190) to 100.0 (1,580)	– (MRI – 75) × \$20.00
> 100.0 (1,580)	– \$500.00

1/ MRI shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed \$800.00.”

### **Portland Cement Concrete Pavement**

Delete Article 420.03(i) of the Standard Specifications.

Revise Article 420.10 of the Standard Specifications to read:

**“420.10 Surface Tests.** The finished surface of the pavement shall be tested for smoothness according to Article 406.11, except as follows.

The testing of the existing pavement prior to improvements shall not apply. The Contractor shall measure the smoothness of the finished surface of the pavement after the pavement has attained a flexural strength of 250 psi (3,800 kPa) or a compressive strength of 1,600 psi (20,700 kPa).

Membrane curing damaged during testing shall be repaired as directed by the Engineer at no additional cost to the Department.

- (a) Corrective Work. No further texturing for skid resistance will be required for areas corrected by grinding. Protective coat shall be reapplied to areas ground according to Article 420.18 at no additional cost to the Department.

Jointed portland cement concrete pavement corrected by removal and replacement, shall be corrected in full panel sizes.

- (b) Smoothness Assessments. Smoothness assessment for high-speed mainline pavement shall be determined as follows.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, PCC)	
Mainline Pavement MRI, in./mile (mm/km) <sup>3/</sup>	Assessment Per Sublot <sup>1/</sup>
≤ 45.0 (710)	+ (45 – MRI) × \$60.00 <sup>2/</sup>
> 45.0 (710) to 75.0 (1,190)	+ \$0.00
> 75.0 (1,190) to 100.0 (1,580)	– (MRI – 75) × \$37.50
> 100.0 (1,580)	– \$750.00

1/ MRI shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed \$1200.00.

3/ If pavement is constructed with traffic in the lane next to it, then an additional 10 in./mile will be added to the upper thresholds.”

### **Removal of Existing Pavement and Appurtenances**

Revise the first paragraph of Article 440.04 of the Standard Specifications to read:

“**440.04 HMA Surface Removal for Subsequent Resurfacing.** The existing HMA surface shall be removed to the depth specified on the plans with a self-propelled milling machine. The removal depth may be varied slightly at the discretion of the Engineer to satisfy the smoothness requirements of the finished pavement. The temperature at which the work is performed, the nature and condition of the equipment, and the manner of performing the work shall be such that the milled surface is not torn, gouged, shoved or otherwise damaged by the milling operation. Sufficient cutting passes shall be made so that all irregularities or high spots are eliminated to the satisfaction of the Engineer. When tested with a 16 ft (5 m) straightedge, the milled surface shall have no surface variations in excess of 3/16 in. (5 mm).”

### **General Equipment**

Revise Article 1101.04 of the Standard Specifications to read:

“**1101.04 Pavement Surface Grinding Equipment.** The pavement surface grinding device shall have a minimum effective head width of 3 ft (0.9 m).

- (a) Diamond Saw Blade Machine. The machine shall be self-propelled with multiple diamond saw blades.
- (b) Profile Milling Machine. The profile milling machine shall be a drum device with carbide or diamond teeth with spacing of 0.315 in. (8 mm) or less and maintain proper forward speed for surface texture according to the manufacturer’s specifications.”

## **TRAINING SPECIAL PROVISIONS (BDE)**

Effective: October 15, 1975

Revised: September 2, 2021

This Training Special Provision supersedes Section 7b of the Special Provision entitled “Specific Equal Employment Opportunity Responsibilities,” and is in implementation of 23 U.S.C. 140(a).

As part of the Contractor’s equal employment opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be 1. In the event the Contractor subcontracts a portion of the contract work, it shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The Contractor shall also ensure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the Contractor’s needs and the availability of journeymen in the various classifications within the reasonable area of recruitment. Prior to commencing construction, the Contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. The Contractor will be credited for each trainee it employs on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g. by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps it has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he or she has successfully completed a training course leading to journeyman status or in which he or she has been employed as a journeyman. The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by the Illinois Department of Transportation and the Federal Highway Administration. The Illinois Department of Transportation and the Federal Highway Administration shall approve a program, if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved by not necessarily sponsored by the U.S. Department of Labor Employment Training Administration shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the Contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the Contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the Contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirement of this Training

Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A Contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The Contractor shall furnish the trainee a copy of the program he will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The Contractor shall provide for the maintenance of records and furnish periodic reports documenting its performance under this Training Special Provision.

For contracts with an awarded contract value of \$500,000 or more, the Contractor is required to comply with the Illinois Works Apprenticeship Initiative (30 ILCS 559/20-20 to 20-25) and all applicable administrative rules to the extent permitted by Section 20-20(g). For federally funded projects, the number of trainees to be trained under this contract, as stated in the Training Special Provisions, will be the established goal for the Illinois Works Apprenticeship Initiative 30 ILCS 559/20-20(g). The Contractor shall make a good faith effort to meet this goal. For federally funded projects, the Illinois Works Apprenticeship Initiative will be implemented using the FHWA approved OJT procedures. The Contractor must comply with the recordkeeping and reporting obligations of the Illinois Works Apprenticeship Initiative for the life of the project, including the certification as to whether the trainee/apprentice labor hour goals were met.

Method of Measurement. The unit of measurement is in hours.

Basis of Payment. This work will be paid for at the contract unit price of 80 cents per hour for TRAINEES. The estimated total number of hours, unit price, and total price have been included in the schedule of prices.

20338

## **VEHICLE AND EQUIPMENT WARNING LIGHTS (BDE)**

Effective: November 1, 2021

Revised: November 1, 2022

Add the following paragraph after the first paragraph of Article 701.08 of the Standard Specifications:

“The Contractor shall equip all vehicles and equipment with high-intensity oscillating, rotating, or flashing, amber or amber-and-white, warning lights which are visible from all directions. In accordance with 625 ILCS 5/12-215, the lights may only be in operation while the vehicle or equipment is engaged in construction operations.”

80439

## **WEEKLY DBE TRUCKING REPORTS (BDE)**

Effective: June 2, 2012

Revised: November 1, 2021

The Contractor shall submit a weekly report of Disadvantaged Business Enterprise (DBE) trucks hired by the Contractor or subcontractors (i.e. not owned by the Contractor or subcontractors) that are used for DBE goal credit.

The report shall be submitted to the Engineer on Department form "SBE 723" within ten business days following the reporting period. The reporting period shall be Sunday through Saturday for each week reportable trucking activities occur.

Any costs associated with providing weekly DBE trucking reports shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

80302

## WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

Effective: March 2, 2020

Add the following to Article 701.03 of the Standard Specifications:

“(q) Temporary Sign Supports ..... 1106.02”

Revise the third paragraph of Article 701.14 of the Standard Specifications to read:

“For temporary sign supports, the Contractor shall provide a FHWA eligibility letter for each device used on the contract. The letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device. The signs shall be supported within 20 degrees of vertical. Weights used to stabilize signs shall be attached to the sign support per the manufacturer’s specifications.”

Revise the first paragraph of Article 701.15 of the Standard Specifications to read:

“**701.15 Traffic Control Devices.** For devices that must meet crashworthiness standards, the Contractor shall provide a manufacturer’s self-certification or a FHWA eligibility letter for each Category 1 device and a FHWA eligibility letter for each Category 2 and Category 3 device used on the contract. The self-certification or letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device.”

Revise the first six paragraphs of Article 1106.02 of the Standard Specifications to read:

“**1106.02 Devices.** Work zone traffic control devices and combinations of devices shall meet crashworthiness standards 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, plastic drums, and delineators, with no attachments (e.g. lights). Category 1 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 1 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 2 includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. These include vertical panels with lights, barricades, temporary sign supports, and Category 1 devices with attachments (e.g. drums with lights). Category 2 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 2 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions (impact



attenuators), truck mounted attenuators, and other devices not meeting the definitions of Category 1 or 2. Category 3 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 3 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2029. Category 3 devices shall be crash tested for 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. It is preferable for Category 4 devices manufactured after December 31, 2019 to be MASH-16 compliant; however, there are currently no crash tested devices in this category, so it remains exempt from the NCHRP 350 or MASH compliance requirement.

For each type of device, when no more than one MASH-16 compliant is available, an NCHRP 350 or MASH-2009 compliant device may be used, even if manufactured after December 31, 2019.”

Revise Articles 1106.02(g), 1106.02(k), and 1106.02(l) to read:

“(g) Truck Mounted/Trailer Mounted Attenuators. The attenuator shall be approved for use at Test Level 3. Test Level 2 may be used for normal posted speeds less than or equal to 45 mph.

(k) Temporary Water Filled Barrier. The water filled barrier shall be a lightweight plastic shell designed to accept water ballast and be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings.

(l) Movable Traffic Barrier. The movable traffic barrier shall be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings. The barrier shall be capable of being moved on and off the roadway on a daily basis.”

80427

**REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

**ATTACHMENTS**

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

**I. GENERAL**

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work

performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

**II. NONDISCRIMINATION** (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or 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 or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

#### **6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide

sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

#### **8. Reasonable Accommodation for Applicants /**

**Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

#### **9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:**

The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

#### **10. Assurances Required:**

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. 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 DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA- 1273 format and FHWA program requirements.

#### 1. Minimum wages (29 CFR 5.5)

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

## **2. Withholding (29 CFR 5.5)**

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally- assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics,

including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

## **3. Payrolls and basic records (29 CFR 5.5)**

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or

subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### 4. Apprentices and trainees (29 CFR 5.5)

##### a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State

Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

##### b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the

corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

**9. Disputes concerning labor standards.** As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor

set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

#### **10. Certification of eligibility (29 CFR 5.5)**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

#### **V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph 1 of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph 1 of this section, in the sum currently provided in 29 CFR 5.5(b)(2)\* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1 of this section. 29 CFR 5.5.

\* \$27 as of January 23, 2019 (See 84 FR 213-01, 218) as may be adjusted annually by the Department of Labor; pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990).



### **3. Withholding for unpaid wages and liquidated damages.**

The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 2 of this section. 29 CFR 5.5.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs 1 through 4 of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1 through 4 of this section. 29 CFR 5.5.

## **VI. SUBLETTING OR ASSIGNING THE CONTRACT**

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or

equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

## **VII. SAFETY: ACCIDENT PREVENTION**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

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 Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance

with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

### **VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

### **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)**

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.326.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders

or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.326.

### **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

#### **1. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant

who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 180.300.

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. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

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## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

## **3. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant 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. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is

submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

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**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(a) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(b) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(c) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

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**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier

subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

## **XII. USE OF UNITED STATES-FLAG VESSELS:**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.
2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

## Contract Provision - Cargo Preference Requirements

In accordance with Title 46 CFR § 381.7 (b), the contractor agrees—

“(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.”

Provisions (1) and (2) apply to materials or equipment that are acquired solely for the project. The two provisions do not apply to goods or materials that come into inventories independent of the project, such as shipments of Portland cement, asphalt cement, or aggregates, when industry suppliers and contractors use these materials to replenish existing inventories.

