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Letting March 9, 2018

Notice to Bidders, Specifications and Proposal



**Illinois Department
of Transportation**

Springfield, Illinois 62764

**Contract No. 61E27
COOK County
Section 10-00149-01-LS (Park Ridge)
Route FAU 3524 (Northwest Highway)
Project JGE4-887 ()
District 1 Construction Funds**

Prepared by

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Checked by



NOTICE TO BIDDERS

- 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 10:00 a.m. March 9, 2018 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. 61E27
COOK County
Section 10-00149-01-LS (Park Ridge)
Project JGE4-887 ()
Route FAU 3524 (Northwest Highway)
District 1 Construction Funds**

Lighting, landscaping and sidewalk improvements along Northwest Highway from Touhy Avenue to Washington Avenue in the city of Park Ridge.

- 3. INSTRUCTIONS TO BIDDERS.** (a) This Notice, the invitation for bids, proposal and letter of award shall, together with all other documents in accordance with Article 101.09 of the Standard Specifications for Road and Bridge Construction, become part of the contract. Bidders are cautioned to read and examine carefully all documents, to make all required inspections, and to inquire or seek explanation of the same prior to submission of a bid.

(b) State law, and, if the work is to be paid wholly or in part with Federal-aid funds, Federal law requires the bidder to make various certifications as a part of the proposal and contract. By execution and submission of the proposal, the bidder makes the certification contained therein. A false or fraudulent certification shall, in addition to all other remedies provided by law, be a breach of contract and may result in termination of the contract.
- 4. AWARD CRITERIA AND REJECTION OF BIDS.** This contract will be awarded to the lowest responsive and responsible bidder considering conformity with the terms and conditions established by the Department in the rules, Invitation for Bids and contract documents. The issuance of plans and proposal forms for bidding based upon a prequalification rating shall not be the sole determinant of responsibility. The Department reserves the right to determine responsibility at the time of award, to reject any or all proposals, to readvertise the proposed improvement, and to waive technicalities.

By Order of the
Illinois Department of Transportation

Randall S. Blankenhorn,
Secretary

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2018

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 4-1-16) (Revised 1-1-18)

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CHECK SHEET
FOR
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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		Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2014
80382	132	X Adjusting Frames and Grates	April 1, 2017	
80274		Aggregate Subgrade Improvement	April 1, 2012	April 1, 2016
80192		Automated Flagger Assistance Device	Jan. 1, 2008	
80173		Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
80241		Bridge Demolition Debris	July 1, 2009	
50261		Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50481		Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50491		Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50531		Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	April 1, 2010
80366	134	X Butt Joints	July 1, 2016	
80386		Calcium Aluminate Cement for Class PP-5 Concrete Patching	Nov. 1, 2017	
* 80396		Class A and B Patching	Jan. 1, 2018	
80384	135	X Compensable Delay Costs	June 2, 2017	
80198		Completion Date (via calendar days)	April 1, 2008	
80199		Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80293		Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	April 1, 2012	July 1, 2016
80311		Concrete End Sections for Pipe Culverts	Jan. 1, 2013	April 1, 2016
80277		Concrete Mix Design – Department Provided	Jan. 1, 2012	April 1, 2016
80261	139	X Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
80387		Contrast Preformed Plastic Pavement Marking	Nov. 1, 2017	
80029	142	X Disadvantaged Business Enterprise Participation	Sept. 1, 2000	July 2, 2016
* 80378		Dowel Bar Inserter	Jan. 1, 2017	Jan. 1, 2018
80388	153	X Equipment Parking and Storage	Nov. 1, 2017	
80229		Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
80304		Grooving for Recessed Pavement Markings	Nov. 1, 2012	Nov. 1, 2017
80246		Hot-Mix Asphalt – Density Testing of Longitudinal Joints	Jan. 1, 2010	April 1, 2016
* 80347		Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits - Jobsite Sampling	Nov. 1, 2014	Jan. 1, 2018
80383		Hot-Mix Asphalt – Quality Control for Performance	April 1, 2017	Nov. 1, 2017
80376	154	X Hot-Mix Asphalt – Tack Coat	Nov. 1, 2016	
* 80392	155	X Lights on Barricades	Jan. 1, 2018	
80336		Longitudinal Joint and Crack Patching	April 1, 2014	April 1, 2016
* 80393		Manholes, Valve Vaults, and Flat Slab Tops	Jan. 1, 2018	
80045		Material Transfer Device	June 15, 1999	Aug. 1, 2014
* 80394		Metal Flared End Section for Pipe Culverts	Jan. 1, 2018	
80165		Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2010
80349		Pavement Marking Blackout Tape	Nov. 1, 2014	April 1, 2016
80371	157	X Pavement Marking Removal	July 1, 2016	
* 80390	158	X Payments to Subcontractors	Nov. 2, 2017	
80377		Portable Changeable Message Signs	Nov. 1, 2016	April 1, 2017
80389	159	X Portland Cement Concrete	Nov. 1, 2017	
80359		Portland Cement Concrete Bridge Deck Curing	April 1, 2015	Nov. 1, 2017
80385	160	X Portland Cement Concrete Sidewalk	Aug. 1, 2017	
80300		Preformed Plastic Pavement Marking Type D - Inlaid	April 1, 2012	April 1, 2016
80328	161	X Progress Payments	Nov. 2, 2013	
34261		Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
80157		Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	

<u>File Name</u>	<u>Pg.</u>		<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
* 80306			Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Nov. 1, 2012	Jan. 1, 2018
* 80395			Sloped Metal End Section for Pipe Culverts	Jan. 1, 2018	
80340			Speed Display Trailer	April 2, 2014	Jan. 1, 2017
80127			Steel Cost Adjustment	April 2, 2014	Aug. 1, 2017
* 80391	162	X	Subcontractor Mobilization Payments	Nov. 2, 2017	
80317			Surface Testing of Hot-Mix Asphalt Overlays	Jan. 1, 2013	April 1, 2016
80298			Temporary Pavement Marking (NOTE: This special provision was previously named "Pavement Marking Tape Type IV".)	April 1, 2012	April 1, 2017
20338	163	X	Training Special Provision	Oct. 15, 1975	
* 80318			Traversable Pipe Grate for Concrete End Sections (Note: This special provision was previously named "Traversable Pipe Grate".)	Jan. 1, 2013	Jan. 1, 2018
80288	166	X	Warm Mix Asphalt	Jan. 1, 2012	April 1, 2016
80302	168	X	Weekly DBE Trucking Reports	June 2, 2012	April 2, 2015
80071	169	X	Working Days	Jan. 1, 2002	

The following special provisions are in the 2018 Supplemental Specifications and Recurring Special Provisions.

<u>File Name</u>		<u>Special Provision Title</u>	<u>New Location</u>	<u>Effective</u>	<u>Revised</u>
80368		Light Tower	Article 1069.08	July 1, 2016	
80369		Mast Arm Assembly and Pole	Article 1077.03(a)(1)	July 1, 2016	
80338		Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching	Recurring CS #35	April 1, 2014	April 1, 2016
80379		Steel Plate Beam Guardrail	Articles 630.02, 630.05, 630.06, and 630.08	Jan. 1, 2017	
80381		Traffic Barrier Terminal, Type 1 Special	Article 631.04	Jan. 1, 2017	
80380		Tubular Markers	Articles 701.03, 701.15, 701.18, and 1106.02	Jan. 1, 2017	

STATE OF ILLINOIS
SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction" (hereinafter referred to as the "Standard Specifications"), adopted April 1, 2016; the latest edition of the "Manual on Uniform Traffic Control Devices for Street and Highways" and the "Manual of Test Procedure of Materials" in effect on the date of invitation of bids, and the "Supplemental Specifications and Recurring Special Provisions" adopted January 1, 2018 indicated on the Check Sheet included here in which apply to and govern the construction of Resurfacing and Streetscape Improvements, Section 10-00149-01-LS, Contract No. 61E27 in Park Ridge, Cook County.

These Special Provisions included herein apply to and govern the proposed improvement designated and in case of conflict with any part of said specifications, the said Special Provisions shall take precedent and shall govern.

LOCATION OF PROJECT

The project is located at Northwest Highway from Touhy Avenue to Washington Street, in the City of Park Ridge, Cook County. The Gross and Net Length of the project is 1473 feet (0.28 Miles).

DESCRIPTION OF THE IMPROVEMENTS

The work consists of hot-mix asphalt (HMA) resurfacing, curb and gutter removal and replacement, sidewalk removal and replacement, pavement removal, HMA surface and binder course, aggregate course, pavement striping, utility structure adjustment, streetscape improvements, landscape plantings, street lighting, irrigation, electrical and all incidental and collateral work necessary to complete the project as shown on the plans and as describes herein.

AVAILABLE REPORTS

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)
- Preliminary Environmental Site Assessment (PESA)
- Soils/Geotechnical Report
- Boring Logs
- Pavement Cores
- Location Drainage Study (LDS)
- Hydraulic Report
- Noise Analysis
- Other: _____

Those seeking these reports should request access from:

Sarah Mitchell
City of Park Ridge
smitchell@parkridge.us

STATUS OF UTILITIES

Effective: June 1, 2016

Utility companies and/or municipal owners located within the construction limits of this project have provided the following information in regard to 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 in the action column; 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.

LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	ACTION
Northwest Hwy. Sta. 300+50 to Sta. 315+25	Natural gas	New sidewalk, curb and gutter, and surface asphalt course to be installed throughout project. All gas valve boxes need to be adjusted after street scape construction to match proposed elevations.	Nicor Gas	Frame and lids adjustment 1 days
Northwest Hwy. Sta. 300+50 to Sta. 315+25	Electricity	New sidewalk, curb and gutter, and asphalt surface pavement to be installed throughout project. All frame and lids need to be adjusted after street scape construction to match proposed elevations	ComEd	Frame and lids adjustment 1 days

<p>Northwest Hwy. Sta. 300+50 to Sta.315+25</p>	<p>Cable TV</p>	<p>New sidewalk, curb and gutter, and asphalt surface pavement to be installed throughout project. Frame and lid need to be adjusted after street scape construction to match proposed elevation</p>	<p>Comcast</p>	<p>Frame and lids adjustment 1 days</p>
<p>Northwest Hwy. Sta.300+55,24' RT Sta.303+34,27'LT Sta.303+40,37'RT Sta.307+96,24RT Sta.308+98,29RT</p>	<p>Telephone</p>	<p>New sidewalk, curb and gutter, and surface asphalt course to be installed throughout project. All frame and lids need to be adjusted after street scape construction to match proposed elevations.</p>	<p>AT&T</p>	<p>Frame and lids adjustment 1 days</p>
<p>Northwest Hwy. Sta. 300+50 to Sta. 315+25</p>	<p>Water</p>	<p>New sidewalk, curb and gutter, and asphalt surface pavement to be installed throughout project. All water valves boxes and b-boxes need to be adjusted after streetscape construction to match proposed elevation</p>	<p>City of Park Ridge</p>	<p>Frame and lids adjustment 1 days</p>

 5 Days frame and lids, and valve boxes adjustment

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	Address	Phone	e-mail address
Nicor Gas	Tim Harris	1844 Ferry Road, Naperville, IL 60563	630-388-3641	x2tiharr@southernco.com
AT&T	Bruce Robbins	1000 Commerce Drive, Oak Brook, IL 60523	630-573-6471	Br1831@att.com
Wide Open West	Christhopher Kasallis	1674 Frontenac Road, Naperville, IL 60563	630-486-9038	Christopher.Kasallis@wowinc.com
Comcast	Patrick Goheen	688 Industrial Drive, Elmhurst, IL 60126	224-229-4453	Patrick_Goheen@comcast.com
ComEd	Teri Bleck	One Lincoln Centre, Suite 600, Oakbrook Terrace, IL 60181	847-366-4350	Terri.Bleck@comed.com
City of Park Ridge	Sarah Mitchell	505 Butler Place, Park Ridge, IL 60068	847-318-5300	smitchell@parkridge.us

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.

LOCATION	TYPE	DESCRIPTION	OWNER	ACTION
Northwest Hwy Sta. 300+50 to Sta. 315+25	Natural Gas	The Contractor is alerted that there is an existing 4" gas main along north side of Northwest Hwy and is horizontally adjacent to the proposed improvements.	Nicor Gas	The 4" gas main shall be protected from damage by the contractor during construction.
Northwest Hwy. Sta. 300+50 to Sta. 315+25	Electricity	The Contractor is alerted that there is an existing concrete duct package running along Northwest Hwy. and is horizontally adjacent to the proposed improvements.	ComEd	The duct package shall be protected from damage by the contractor during construction
Northwest Hwy. Sta. 300+50 to Sta. 315+25	Underground telephone	The Contractor is alerted that there is an existing telephone line running along Northwest Hwy. and is horizontally adjacent to the proposed improvements	AT&T	The telephone line shall be protected from damage by the contractor during construction
Northwest Hwy. Sta. 300+50 to Sta. 315+25	Underground telephone	The Contractor is alerted that there is an existing telephone line running along Northwest Hwy. and is horizontally adjacent to the proposed improvements.	AT&T	The telephone line shall be protected from damage by the contractor during construction

Northwest Hwy. Sta. 309+00, 24' RT to Sta. 315+23, 24' RT	Underground CTV	The Contractor is alerted that there is an existing CTV line running along north side of Northwest Hwy. and is horizontally adjacent to the proposed light pole foundations.	Wide Open West	The CTV line shall be protected from damage by the contractor during construction
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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 taken into account 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 in the action column 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 dates 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. The Department's contractor is responsible for contacting J.U.L.I.E. prior to any and all excavation work.

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

This work shall be according to Article 669 of the Standard Specifications and the following:

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

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

All contaminated materials shall be managed as either "uncontaminated soil" or non-special waste. This work shall include monitoring and potential sampling, analytical testing, and management of a material contaminated by regulated substances. The Environmental Firm

shall continuously monitor all soil excavation for worker protection and soil contamination. **Phase I Preliminary Engineering information is available through the District's Environmental Studies Unit.** Soil samples or analysis without the approval of the Engineer will be at no additional cost to the Department. The lateral distance is measured from centerline and the farthest distance is the offset distance or construction limit whichever is less.

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

Site 3392-5 (Mixed use building)

- Station 300+40 to Station 300+75 (CL US Route 14), 0 to 75 feet LT (Mixed-use building, PESA Site 3392-5, 1 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 300+75 to Station 301+15 (CL US Route 14), 0 to 25 feet LT (Mixed-use building, PESA Site 3392-5, 1 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 301+15 to Station 301+65 (CL US Route 14), 0 to 35 feet LT (Mixed-use building, PESA Site 3392-5, 1 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(3) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene, and Manganese.
- Station 301+65 to Station 302+25 (CL US Route 14), 0 to 35 feet LT (Mixed-use building, PESA Site 3392-5, 1 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 302+75 to Station 303+15 (CL US Route 14), 0 to 35 feet LT (Mixed-use building, PESA Site 3392-5, 1 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Lead, Manganese, and Iron.
- Station 303+70 to Station 304+00 (CL US Route 14), 0 to 35 feet LT (Mixed-use building, PESA Site 3392-5, 1 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.

Site 3392-6 (Commercial Building)

- Station 300+45 to Station 301+15 (CL US Route 14), 0 to 25 feet RT (Commercial Building, PESA Site 3392-6, 6-12 S. Northwest Highway and 1-11 S. Prospect Avenue, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 301+15 to Station 301+65 (CL US Route 14), 0 to 35 feet RT (Commercial Building, PESA Site 3392-6, 6-12 S. Northwest Highway and 1-11 S. Prospect Avenue, Park Ridge). This material meets the criteria of Article 669.09(a)(3) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene, and Manganese.
- Station 301+65 to Station 302+25 (CL US Route 14), 0 to 35 feet RT (Commercial Building, PESA Site 3392-6, 6-12 S. Northwest Highway and 1-11 S. Prospect Avenue, Park Ridge). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.

- Station 302+75 to Station 302+90 (CL US Route 14), 0 to 35 feet RT (Commercial Building, PESA Site 3392-6, 6-12 S. Northwest Highway and 1-11 S. Prospect Avenue, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Lead, Manganese, and Iron.

Site 3392-7 (Venus Szechuan & Mandarin)

- Station 302+90 to Station 303+15 (CL US Route 14), 0 to 35 feet RT (Venus Szechuan & Mandarin, PESA Site 3392-7, 18 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Lead, Manganese, and Iron.

Site 3392-8 (The Summit of Park Ridge)

- Station 303+70 to Station 304+25 (CL US Route 14), 0 to 35 feet RT (The Summit of Park Ridge, PESA Site 3392-8, 100-118 Euclid Avenue, Park Ridge). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 304+25 to Station 304+75 (CL US Route 14), 0 to 35 feet RT (The Summit of Park Ridge, PESA Site 3392-8, 100-118 Euclid Avenue, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 304+75 to Station 305+30 (CL US Route 14), 0 to 35 feet RT (The Summit of Park Ridge, PESA Site 3392-8, 100-118 Euclid Avenue, Park Ridge). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 305+30 to Station 305+45 (CL US Route 14), 0 to 35 feet RT (The Summit of Park Ridge, PESA Site 3392-8, 100-118 Euclid Avenue, Park Ridge). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic, and Manganese.

Site 3392-9 (Commercial building)

- Station 304+00 to Station 304+25 (CL US Route 14), 0 to 35 feet LT (Commercial building, PESA Site 3392-9, 25-27 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 304+25 to Station 304+60 (CL US Route 14), 0 to 35 feet LT (Commercial building, PESA Site 3392-9, 25-27 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.

Site 3392-10 (Commercial building)

- Station 304+60 to Station 304+75 (CL US Route 14), 0 to 35 feet LT (Commercial building, PESA Site 3392-10, 31-39 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 304+75 to Station 305+30 (CL US Route 14), 0 to 35 feet LT (Commercial building, PESA Site 3392-10, 31-39 S. Northwest Highway, Park Ridge). This material meets the

criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.

- Station 305+30 to Station 305+75 (CL US Route 14), 0 to 35 feet LT (Commercial building, PESA Site 3392-10, 31-39 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic, and Manganese.
- Station 305+75 to Station 306+10 (CL US Route 14), 0 to 35 feet LT (Commercial building, PESA Site 3392-10, 31-39 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(b)(1) and shall be managed in accordance to Article 669.09.

Site 3392-11 (Starbucks)

- Station 305+45 to Station 305+75 (CL US Route 14), 0 to 35 feet RT (Starbucks, PESA Site 3392-11, 100 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic, and Manganese.
- Station 305+75 to Station 306+25 (CL US Route 14), 0 to 35 feet RT (Starbucks, PESA Site 3392-11, 100 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(b)(1) and shall be managed in accordance to Article 669.09.
- Station 306+25 to Station 306+35 (CL US Route 14), 0 to 35 feet RT (Starbucks, PESA Site 3392-11, 100 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic, and Manganese.

Site 3392-12 (Commercial building)

- Station 306+25 to Station 306+75 (CL US Route 14), 0 to 35 feet LT (Commercial building, PESA Site 3392-12, 101-107 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic, and Manganese.
- Station 306+75 to Station 307+25 (CL US Route 14), 0 to 35 feet LT (Commercial building, PESA Site 3392-12, 101-107 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 307+25 to Station 307+40 (CL US Route 14), 0 to 35 feet LT (Commercial building, PESA Site 3392-12, 101-107 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic, and Manganese.

Site 3392-13 (The Original Pancake House)

- Station 306+35 to Station 306+75 (CL US Route 14), 0 to 35 feet RT (The Original Pancake House, PESA Site 3392-13, 106 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic, and Manganese.
- Station 306+75 to Station 307+10 (CL US Route 14), 0 to 35 feet RT (The Original Pancake House, PESA Site 3392-13, 106 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.

Site 3392-14 (Commercial building)

- Station 307+10 to Station 307+25 (CL US Route 14), 0 to 35 feet RT (Commercial building, PESA Site 3392-14, 112-116 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 307+25 to Station 307+70 (CL US Route 14), 0 to 35 feet RT (Commercial building, PESA Site 3392-14, 112-116 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic, and Manganese.
- Station 307+70 to Station 307+90 (CL US Route 14), 0 to 35 feet RT (Commercial building, PESA Site 3392-14, 112-116 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.

Site 3392-15 (Chipotle Mexican Grill)

- Station 307+40 to Station 307+70 (CL US Route 14), 0 to 35 feet LT (Chipotle Mexican Grill, PESA Site 3392-15, 119 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic, and Manganese.
- Station 307+70 to Station 308+10 (CL US Route 14), 0 to 35 feet LT (Chipotle Mexican Grill, PESA Site 3392-15, 119 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 308+10 to Station 308+25 (CL US Route 14), 0 to 35 feet LT (Chipotle Mexican Grill, PESA Site 3392-15, 119 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene, Mercury, Lead, and Manganese.

Site 3392-16 (Ryan-Parke Funeral Home)

- Station 307+90 to Station 308+10 (CL US Route 14), 0 to 35 feet RT (Ryan-Parke Funeral Home, PESA Site 3392-16, 120 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 308+10 to Station 308+60 (CL US Route 14), 0 to 35 feet RT (Ryan-Parke Funeral Home, PESA Site 3392-16, 120 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene, Mercury, Lead, and Manganese.
- Station 308+60 to Station 309+20 (CL US Route 14), 0 to 35 feet RT (Ryan-Parke Funeral Home, PESA Site 3392-16, 120 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Carbazole, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Lead, and Manganese.

Site 3392-17 (General Dentistry)

- Station 308+25 to Station 308+60 (CL US Route 14), 0 to 35 feet LT (General Dentistry, PESA Site 3392-17, 123 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene, Mercury, Lead, and Manganese.
- Station 308+60 to Station 308+90 (CL US Route 14), 0 to 35 feet LT (General Dentistry, PESA Site 3392-17, 123 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic, and Manganese.

Site 3392-18 (Commercial building)

- Station 308+90 to Station 309+85 (CL US Route 14), 0 to 35 feet LT (Commercial building, PESA Site 3392-18, 125-133 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Arsenic, and Manganese.

Site 3392-19 (St. Paul of the Cross Catholic Church and School)

- Station 309+20 to Station 309+85 (CL US Route 14), 0 to 35 feet RT (St. Paul of the Cross Catholic Church and School, PESA Site 3392-19, 140 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Carbazole, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Lead, and Manganese.
- Station 309+85 to Station 310+25 (CL US Route 14), 0 to 35 feet RT (St. Paul of the Cross Catholic Church and School, PESA Site 3392-19, 140 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 310+25 to Station 310+80 (CL US Route 14), 0 to 35 feet RT (St. Paul of the Cross Catholic Church and School, PESA Site 3392-19, 140 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 310+80 to Station 311+25 (CL US Route 14), 0 to 35 feet RT (St. Paul of the Cross Catholic Church and School, PESA Site 3392-19, 140 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 311+25 to Station 312+25 (CL US Route 14), 0 to 35 feet RT (St. Paul of the Cross Catholic Church and School, PESA Site 3392-19, 140 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 312+25 to Station 312+70 (CL US Route 14), 0 to 35 feet RT (St. Paul of the Cross Catholic Church and School, PESA Site 3392-19, 140 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 312+70 to Station 313+30 (CL US Route 14), 0 to 35 feet RT (St. Paul of the Cross Catholic Church and School, PESA Site 3392-19, 140 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance

to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene, and Manganese.

- Station 313+30 to Station 313+70 (CL US Route 14), 0 to 35 feet RT (St. Paul of the Cross Catholic Church and School, PESA Site 3392-19, 140 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 313+70 to Station 314+15 (CL US Route 14), 0 to 35 feet RT (St. Paul of the Cross Catholic Church and School, PESA Site 3392-19, 140 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Lead, Manganese, and Iron.

Site 3392-20 (Commercial building)

- Station 309+85 to Station 311+25 (CL US Route 14), 0 to 35 feet LT (Commercial building, PESA Site 3392-20, 145-147 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 311+25 to Station 311+65 (CL US Route 14), 0 to 35 feet LT (Commercial building, PESA Site 3392-20, 145-147 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 500+45 to Station 501+25 (CL Washington Street), 0 to 35 feet LT (Commercial building, PESA Site 3392-20, 145-147 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene.

Site 3392-21 (Presence Center for Health)

- Station 311+65 to Station 312+25 (CL US Route 14), 0 to 35 feet LT (Presence Center for Health, PESA Site 3392-21, 205 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(2) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 312+25 to Station 315+25 (CL US Route 14), 0 to 35 feet LT (Presence Center for Health, PESA Site 3392-21, 205 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene, Lead, Manganese, and Iron.
- Station 500+20 to Station 501+25 (CL Washington Street), 0 to 35 feet RT (Presence Center for Health, PESA Site 3392-21, 205 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)pyrene.

Site 3392-22 (Commercial buildings)

- Station 314+15 to Station 314+25 (CL US Route 14), 0 to 35 feet RT (Commercial buildings, PESA Site 3392-22, 250-350 S. Northwest Highway, Park Ridge). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Lead, Manganese, and Iron.
- Station 314+25 to Station 315+25 (CL US Route 14), 0 to 35 feet RT (Commercial buildings, PESA Site 3392-22, 250-350 S. Northwest Highway, Park Ridge). This material meets the

criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09.
Contaminants of concern sampling parameters: Manganese.

MAINTENANCE OF ROADWAYS

Effective: September 30, 1985
Revised: November 1, 1996

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

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

TRAFFIC CONTROL PLAN

Effective: September 30, 1985
Revised: January 1, 2007

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

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

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

STANDARDS:

- 701006-05 Off-road operations, 2L,2W, 15'-24" from edge of pavement
- 701011-04 Off-road moving operations, 2L, 2W, day only
- 701301-04 Lane closure, 2L, 2W, short time operations
- 701311-03 Lane closure, 2L, 2W moving operations, day only
- 701427-05 Lane closure, multilane, intermittent or moving operations for speed < 40 mph
- 701501-06 Urban lane closure, 2L, 2W, undivided
- 701606-10 Urban lane closure, multilane, 2W with mountable median

- 701611-01 Urban half road closure, multilane, 2W with mountable median
- 701701-10 Urban line closure, multiline intersection
- 701801-06 Sidewalk, corner crosswalk closure
- 701901-07 Traffic control devices

DETAILS:

- TC – 10 Traffic control and protection for side roads, intersection, and driveways
- TC – 11 Typical applications raised reflective pavement markers (snow-plow resistant)
- TC – 13 District One typical pavement markings
- TC – 16 Pavement marking letters and symbols for traffic staging
- TC – 22 Arterial road information sign
- TS – 05 District One traffic signal design detail
- TS – 07 District One detector loop installation detail for roadway resurfacing

SPECIAL PROVISIONS:

- Maintenance of Roadways
- Traffic Control and Protection
- Public Convenience and Safety
- Temporary Information Signing

TRAFFIC CONTROL AND PROTECTION (ARTERIALS)

Effective: February1, 1996
Revised: March 1, 2011

Specific traffic control plan details and Special Provision 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.

BASIC 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

PUBLIC CONVENIENCE AND SAFETY

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.”

TEMPORARY INFORMATION SIGNING

Effective: November 13, 1996
Revised: January 2, 2007

Description.

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

Materials.

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

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

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

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

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

requirements of Article 1106.01.

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

GENERAL CONSTRUCTION REQUIREMENTS

Installation.

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

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

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

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

Method of Measurement.

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

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

Basis Of Payment.

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

RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES

Effective: November 1, 2012

Revise: January 1, 2018

Revise Section 1031 of the Standard Specifications to read:

“SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES

1031.01 Description. Reclaimed asphalt pavement and reclaimed asphalt shingles shall be according to the following.

- (a) Reclaimed Asphalt Pavement (RAP). RAP is the material resulting from cold milling or crushing an existing hot-mix asphalt (HMA) pavement. RAP will be considered processed FRAP after completion of both crushing and screening to size. The

Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.

- (b) Reclaimed Asphalt Shingles (RAS). Reclaimed asphalt shingles (RAS). RAS is from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material, as defined in Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources", by weight of RAS. All RAS used shall come from a Central Bureau of Materials approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 90 percent passing the #4 (4.75 mm) sieve. RAS shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.
- (1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.
 - (2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

1031.02 Stockpiles. RAP and RAS stockpiles shall be according to the following.

- (a) RAP Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. Additional processed RAP (FRAP) shall be stockpiled in a separate working pile, as designated in the QC Plan, and only added to the sealed stockpile when test results for the working pile are complete and are found to meet tolerances specified herein for the original sealed FRAP stockpile. Stockpiles shall be sufficiently separated to prevent intermingling at the base. All stockpiles (including unprocessed RAP and FRAP) shall be identified by signs indicating the type as listed below (i.e. "Non- Quality, FRAP -#4 or Type 2 RAS", etc...).
- (1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. All FRAP shall be processed prior to testing and sized into fractions with the separation occurring on or between the #4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP in the coarse fraction shall pass the maximum sieve size specified for the mix the FRAP will be used in.
 - (2) Restricted FRAP (B quality) stockpiles shall consist of RAP from Class I, HMA (High ESAL), or HMA (High ESAL). If approved by the Engineer, the aggregate from a maximum 3.0 in. (75 mm) single combined pass of surface/binder milling will be classified as B quality. All millings from this application will be processed into FRAP as described previously.
 - (3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in this

RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate RAP shall be processed (FRAP) prior to testing. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.

- (4) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from HMA shoulders, bituminous stabilized subbases or HMA (Low ESAL)/HMA (Low ESAL) IL-19.0L binder mixture. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
- (5) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

RAP or FRAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, joint sealants, plant cleanout etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

- (b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall be sufficiently separated to prevent intermingling at the base. Each stockpile shall be signed indicating what type of RAS is present.

However, a RAS source may submit a written request to the Department for approval to blend mechanically a specified ratio of Type 1 RAS with Type 2 RAS. The source will not be permitted to change the ratio of the blend without the Department prior written approval. The Engineer's written approval will be required, to mechanically blend RAS with any fine aggregate produced under the AGCS, up to an equal weight of RAS, to improve workability. The fine aggregate shall be "B Quality" or better from an approved Aggregate Gradation Control System source. The fine aggregate shall be one that is approved for use in the HMA mixture and accounted for in the mix design and during HMA production.

Records identifying the shingle processing facility supplying the RAS, RAS type, and lot number shall be maintained by project contract number and kept for a minimum of three years.

1031.03 Testing. FRAP and RAS testing shall be according to the following.

- (a) FRAP Testing. When used in HMA, the FRAP shall be sampled and tested either during processing or after stockpiling. It shall also be sampled during HMA production.
 - (1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons

(1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).

- (2) Incoming Material. For testing as incoming material, washed extraction samples shall be run at a minimum frequency of one sample per 2000 tons (1800 metric tons) or once per week, whichever comes first.
- (3) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

Before extraction, each field sample of FRAP, shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedure. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

- (b) RAS Testing. RAS shall be sampled and tested during stockpiling according to Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources". The Contractor shall also sample as incoming material at the HMA plant.

- (1) During Stockpiling. Washed extraction and testing for unacceptable materials shall be run at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 1000 tons (900 metric tons) thereafter. A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). Once a ≤ 1000 ton (900 metric ton), five-sample/test stockpile has been established it shall be sealed. Additional incoming RAS shall be in a separate working pile as designated in the Quality Control plan and only added to the sealed stockpile when the test results of the working pile are complete and are found to meet the tolerances specified herein for the original sealed RAS stockpile.
- (2) Incoming Material. For testing as incoming material at the HMA plant, washed extraction shall be run at the minimum frequency of one sample per 250 tons (227 metric tons). A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). The incoming material test results shall meet the tolerances specified herein.

The Contractor shall obtain and make available all test results from start of the initial stockpile sampled and tested at the shingle processing facility in accordance with the facility's QC Plan.

Before extraction, each field sample shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedures. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

1031.04 Evaluation of Tests. Evaluation of test results shall be according to the following.

- (a) Evaluation of FRAP Test Results. All test results shall be compiled to include asphalt binder content, gradation and, when applicable (for slag), G_{mm} . A five test average of results from the original pile will be used in the mix designs. Individual extraction test results run thereafter, shall be compared to the average used for the mix design, and will be accepted if within the tolerances listed below.

Parameter	FRAP
No. 4 (4.75 mm)	± 6 %
No. 8 (2.36 mm)	± 5 %
No. 30 (600 μm)	± 5 %
No. 200 (75 μm)	± 2.0 %
Asphalt Binder	± 0.3 %
G_{mm}	± 0.03 ^{1/}

- 1/ For stockpile with slag or steel slag present as determined in the current Manual of Test Procedures Appendix B 21, “Determination of Reclaimed Asphalt Pavement Aggregate Bulk Specific Gravity”.

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the FRAP stockpile shall not be used in Hot-Mix Asphalt unless the FRAP representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

The Contractor shall maintain a representative moving average of five tests to be used for Hot-Mix Asphalt production.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the ITP, “Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)” or Illinois Modified AASHTO T-164-11, Test Method A.

- (b) Evaluation of RAS Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content and gradation. A five test average of results from the original pile will be used in the mix designs. Individual test results run thereafter, when compared to the average used for the mix design, will be accepted if within the tolerances listed below.

Parameter	RAS
No. 8 (2.36 mm)	± 5 %
No. 16 (1.18 mm)	± 5 %
No. 30 (600 μm)	± 4 %
No. 200 (75 μm)	± 2.5 %
Asphalt Binder Content	± 2.0 %

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the RAS shall not be used in Hot-Mix Asphalt unless the RAS representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

- (c) Quality Assurance by the Engineer. The Engineer may witness the sampling and splitting conduct assurance tests on split samples taken by the Contractor for quality control testing a minimum of once a month.

The overall testing frequency will be performed over the entire range of Contractor samples for asphalt binder content and gradation. The Engineer may select any or all split samples for assurance testing. The test results will be made available to the Contractor as soon as they become available.

The Engineer will notify the Contractor of observed deficiencies.

Differences between the Contractor's and the Engineer's split sample test results will be considered acceptable if within the following limits.

Test Parameter	Acceptable Limits of Precision	
	FRAP	RAS
% Passing: ^{1/}		
1/2 in.	5.0%	
No. 4	5.0%	
No. 8	3.0%	4.0%
No. 30	2.0%	4.0%
No. 200	2.2%	4.0%
Asphalt Binder Content	0.3%	3.0%
G _{mm}	0.030	

1/ Based on washed extraction.

In the event comparisons are outside the above acceptable limits of precision, the Engineer will immediately investigate.

- (d) Acceptance by the Engineer. Acceptable of the material will be based on the validation of the Contractor's quality control by the assurance process.

1031.05 Quality Designation of Aggregate in RAP and FRAP.

- (a) RAP. The aggregate quality of the RAP for homogeneous, conglomerate, and conglomerate "D" quality stockpiles shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.

- (1) RAP from Class I, HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.

- (2) RAP from HMA (Low ESAL) IL-19.0L binder mixture is designated as Class D quality coarse aggregate.
 - (3) RAP from Class I, HMA (High ESAL) binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate.
 - (4) RAP from bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.
- (b) FRAP. If the Engineer has documentation of the quality of the FRAP aggregate, the Contractor shall use the assigned quality provided by the Engineer.

If the quality is not known, the quality shall be determined as follows. Fractionated RAP stockpiles containing plus #4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5,000 tons (4,500 metric tons). The Contractor shall obtain a representative sample witnessed by the Engineer. The sample shall be a minimum of 50 lb (25 kg). The sample shall be extracted according to Illinois Modified AASHTO T 164 by a consultant laboratory prequalified by the Department for the specified testing. The consultant laboratory shall submit the test results along with the recovered aggregate to the District Office. The cost for this testing shall be paid by the Contractor. The District will forward the sample to the Central Bureau of Materials Aggregate Lab for MicroDeval Testing, according to ITP 327. A maximum loss of 15.0 percent will be applied for all HMA applications. The fine aggregate portion of the fractionated RAP shall not be used in any HMA mixtures that require a minimum of "B" quality aggregate or better, until the coarse aggregate fraction has been determined to be acceptable thru a MicroDeval Testing.

1031.06 Use of FRAP and/or RAS in HMA. The use of FRAP and/or RAS shall be the Contractor's option when constructing HMA in all contracts.

- (a) FRAP. The use of FRAP in HMA shall be as follows.
- (1) Coarse Aggregate Size (after extraction). The coarse aggregate in all FRAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.
 - (2) Steel Slag Stockpiles. FRAP stockpiles containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in HMA (High ESAL and Low ESAL) mixtures regardless of lift or mix type.
 - (3) Use in HMA Surface Mixtures (High and Low ESAL). FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall have coarse aggregate that is Class B quality or better. FRAP shall be considered equivalent to limestone for frictional considerations unless produced/screened to minus 3/8 inch.

- (4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP in which the coarse aggregate is Class C quality or better.
- (5) Use in Shoulders and Subbase. FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, Restricted FRAP, conglomerate, or conglomerate DQ.
- (b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.
- (c) FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with FRAP in HMA mixtures up to a maximum of 5.0 percent by weight of the total mix.

When FRAP is used alone or FRAP is used in conjunction with RAS, the percent of virgin asphalt binder replacement (ABR) shall not exceed the amounts indicated in the table below for a given N Design.

Max Asphalt Binder Replacement for FRAP with RAS Combination

HMA Mixtures ^{1/ 2/ 4/}	Maximum % ABR		
Ndesign	Binder/Leveling Binder	Surface	Polymer Modified ^{3/}
30L	50	40	30
50	40	35	30
70	40	30	30
90	40	30	30
4.75 mm N-50			40
SMA N-80			30

- 1/ For Low ESAL HMA shoulder and stabilized subbase, the percent asphalt binder replacement shall not exceed 50 % of the total asphalt binder in the mixture.
- 2/ When the binder replacement exceeds 15 % for all mixes, except for SMA and IL-4.75, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 % binder replacement using a virgin asphalt binder grade of PG64-22 will be reduced to a PG58-28). When constructing full depth HMA and the ABR is less than 15 %, the required virgin asphalt binder grade shall be PG64-28.
- 3/ When the ABR for SMA or IL-4.75 is 15 % or less, the required virgin asphalt binder shall be SBS PG76-22 and the elastic recovery shall be a minimum of 80. When the ABR for SMA or IL-4.75 exceeds 15%, the virgin asphalt binder grade shall be SBS PG70-28 and the elastic recovery shall be a minimum of 80.

- 4/ When FRAP or RAS is used alone, the maximum percent asphalt binder replacement designated on the table shall be reduced by 10 %.

1031.07 HMA Mix Designs. At the Contractor's option, HMA mixtures may be constructed utilizing RAP/FRAP and/or RAS material meeting the detailed requirements specified herein.

- (a) FRAP and/or RAS. FRAP and /or RAS mix designs shall be submitted for verification. If additional FRAP or RAS stockpiles are tested and found to be within tolerance, as defined under "Evaluation of Tests" herein, and meet all requirements herein, the additional FRAP or RAS stockpiles may be used in the original design at the percent previously verified.
- (b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design.

The RAP, FRAP and RAS stone specific gravities (G_{sb}) shall be according to the "Determination of Aggregate Bulk (Dry) Specific Gravity (G_{sb}) or Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)" procedure in the Department's Manual of Test Procedures for Materials.

1031.08 HMA Production. HMA production utilizing FRAP and/or RAS shall be as follows.

To remove or reduce agglomerated material, a scalping screen, gator, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAS and FRAP feed system to remove or reduce oversized material. .

If during mix production, corrective actions fail to maintain FRAP, RAS or QC/QA test results within control tolerances or the requirements listed herein the Contractor shall cease production of the mixture containing FRAP or RAS and conduct an investigation that may require a new mix design.

- (a) RAS. RAS shall be incorporated into the HMA mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. The portion of RAS shall be controlled accurately to within ± 0.5 percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that the mixture production is halted when RAS flow is interrupted.
- (b) HMA Plant Requirements. HMA plants utilizing FRAP and/or RAS shall be capable of automatically recording and printing the following information.
- (1) Dryer Drum Plants.
- a. Date, month, year, and time to the nearest minute for each print.
 - b. HMA mix number assigned by the Department.

- c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
 - d. Accumulated dry weight of RAS and FRAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
 - e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.
 - f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
 - g. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.
 - h. Aggregate RAS and FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAS and FRAP are printed in wet condition.)
 - i. When producing mixtures with FRAP and/or RAS, a positive dust control system shall be utilized.
 - j. Accumulated mixture tonnage.
 - k. Dust Removed (accumulated to the nearest 0.1 ton (0.1 metric ton))
- (2) Batch Plants.
- a. Date, month, year, and time to the nearest minute for each print.
 - b. HMA mix number assigned by the Department.
 - c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
 - d. Mineral filler weight to the nearest pound (kilogram).
 - f. RAS and FRAP weight to the nearest pound (kilogram).
 - g. Virgin asphalt binder weight to the nearest pound (kilogram).
 - h. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

The printouts shall be maintained in a file at the plant for a minimum of one year or as directed by the Engineer and shall be made available upon request. The printing system will be inspected by the Engineer prior to production and verified at the beginning of each construction season thereafter.

1031.09 RAP in Aggregate Surface Course and Aggregate Wedge Shoulders, Type B.

The use of RAP or FRAP in aggregate surface course and aggregate shoulders shall be as follows.

- (a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except “Non-Quality” and “FRAP”. The testing requirements of Article 1031.03 shall not apply. RAP used shall be according to the current Central Bureau of Materials Policy Memorandum, “Reclaimed Asphalt Pavement (RAP) for Aggregate Applications”.
- (b) Gradation. The RAP material shall meet the gradation requirements for CA 6 according to Article 1004.01(c), except the requirements for the minus No. 200 (75 µm) sieve shall not apply. The sample for the RAP material shall be air dried to constant weight prior to being tested for gradation.”

HMA MIXTURE DESIGN REQUIREMENTS (D-1)

Effective: January 1, 2013

Revised: January 1, 2018

1) Design Composition and Volumetric Requirements

Revise the table in Article 406.06(d) of the Standard Specifications to read:

“MINIMUM COMPACTED LIFT THICKNESS	
Mixture Composition	Thickness, in. (mm)
IL-4.75	3/4 (19)
SMA-9.5, IL-9.5, IL-9.5L	1 1/2 (38)
SMA-12.5	2 (50)
IL-19.0, IL-19.0L	2 1/4 (57)”

Revise the table in Article 1004.03(c) of the Standard Specifications to read:

“Use	Size/Application	Gradation No.
Class A-1, 2, & 3	3/8 in. (10 mm) Seal	CA 16
Class A-1	1/2 in. (13 mm) Seal	CA 15
Class A-2 & 3	Cover	CA 14
HMA High ESAL	IL-19.0 IL-9.5	CA 11 ^{1/} CA 16, CA 13 ^{3/}
HMA Low ESAL	IL-19.0L IL-9.5L Stabilized Subbase or Shoulders	CA 11 ^{1/} CA 16
SMA ^{2/}	1/2 in. (12.5mm) Binder & Surface IL 9.5 Surface	CA13 ^{3/} , CA14 or CA16 CA16, CA 13 ^{3/}

- 1/ CA 16 or CA 13 may be blended with the gradations listed.
- 2/ The coarse aggregates used shall be capable of being combined with stone sand, slag sand, or steel slag sand meeting the FA/FM 20 gradation and mineral filler to meet the approved mix design and the mix requirements noted herein.
- 3/ 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 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.”

Revise the nomenclature table in Article 1030.01 of the Standard Specifications to read:

“High ESAL	IL-19.0 binder; IL-9.5 surface; IL-4.75; SMA-12.5, SMA-9.5
Low ESAL	IL-19.0L binder; IL-9.5L surface; Stabilized Subbase (HMA) ^{1/} ; HMA Shoulders ^{2/}

1/ Uses 19.0L binder mix.

2/ Uses 19.0L for lower lifts and 9.5L for surface lift.”

Revise Article 1030.02 of the Standard Specifications and Supplemental Specifications to read:

“**1030.02 Materials.** Materials shall be according to the following.

Item.....	Article/Section
(a) Coarse Aggregate	1004.03
(b) Fine Aggregate	1003.03
(c) RAP Material	1031
(d) Mineral Filler	1011
(e) Hydrated Lime	1012.01
(f) Slaked Quicklime (Note 1)	
(g) Performance Graded Asphalt Binder (Note 2)	1032
(h) Fibers (Note 3)	
(i) Warm Mix Asphalt (WMA) Technologies (Note 4)	

Note 1. Slaked quicklime shall be according to ASTM C 5.

Note 2. 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 an Elvaloy or SBS PG 76-22 for IL-4.75, except where modified herein. The elastic recovery shall be a minimum of 80.

Note 3. 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 4. Warm mix additives or foaming processes shall be selected from the current Bureau of Materials and Physical Research Approved List, “Warm Mix Asphalt Technologies”.

Revise Article 1030.04(a)(1) of the Standard Specifications and the Supplemental Specifications to read:

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

High ESAL, MIXTURE COMPOSITION (% PASSING) ^{1/}										
Sieve Size	IL-19.0 mm		SMA ^{4/} IL-12.5 mm		SMA ^{4/} IL-9.5 mm		IL-9.5 mm		IL-4.75 mm	
	min	max	min	max	min	max	min	max	min	max
1 1/2 in (37.5 mm)										
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
3/8 in. (9.5 mm)				65	90	100	90	100		100
#4 (4.75 mm)	40	60	20	30	36	50	34	69	90	100
#8 (2.36 mm)	20	42	16	24 ^{5/}	16	32 ^{5/}	34 ^{6/}	52 ^{2/}	70	90
#16 (1.18 mm)	15	30					10	32	50	65
#30 (600 μm)			12	16	12	18				
#50 (300 μm)	6	15					4	15	15	30
#100 (150 μm)	4	9					3	10	10	18
#200 (75 μm)	3	6	7.0	9.0 ^{3/}	7.5	9.5 ^{3/}	4	6	7	9 ^{3/}
Ratio Dust/Asphalt Binder		1.0		1.5		1.5		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 Ndesign = 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/ The maximum percent passing the #635 (20 μm) sieve shall be ≤ 3 percent.
- 5/ 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.
- 6/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted below 34 percent.

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

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

VOLUMETRIC REQUIREMENTS High ESAL				
	Voids in the Mineral Aggregate (VMA), % minimum			Voids Filled with Asphalt Binder (VFA), %
Ndesign	IL-19.0	IL-9.5	IL-4.75 ^{1/}	
50	13.5	15.0	18.5	65 – 78 ^{2/}
70				65 - 75
90				

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

2/ VFA for IL-4.75 shall be 72-85 percent”

Replace Article 1030.04(b)(3) of the Standard Specifications with the following:

“(3) SMA Mixtures.

Volumetric Requirements SMA ^{1/}			
Ndesign	Design Air Voids Target %	Voids in the Mineral Aggregate (VMA), % min.	Voids Filled with Asphalt (VFA), %
80 ^{4/}	3.5	17.0 ^{2/}	75 - 83
		16.0 ^{3/}	

1/ Maximum draindown shall be 0.3 percent. The draindown shall be determined at the JMF asphalt binder content at the mixing temperature plus 30 °F.

2/ Applies when specific gravity of coarse aggregate is ≥ 2.760.

3/ Applies when specific gravity of coarse aggregate is < 2.760.

4/ Blending of different types of aggregate will not be permitted. 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.

Add to the end of Article 1030.05 (d) (2) a. of the Standard Specifications:

“During production, the Contractor shall test SMA mixtures for draindown according to AASHTO T305 at a frequency of 1 per day of production.”

Delete last sentence of the second paragraph of Article 1102.01(a) (4) b. 2.

Add to the end of Article 1102.01 (a) (4) b. 2.:

“As an option, collected dust (baghouse) may be used in lieu of manufactured mineral filler according to the following:

- (a.) Sufficient collected dust (baghouse) is available for production of the SMA mix for the entire project.
- (b.) A mix design was prepared based on collected dust (baghouse).

2) Design Verification and Production

Revise Article 1030.04 (d) of the Standard Specifications to read:

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

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

- (1) Hamburg Wheel Test criteria. The maximum allowable rut depth shall be 0.5 in. (12.5 mm). The minimum number of wheel passes at the 0.5 in. (12.5 mm) rut depth criteria shall be based on the high temperature binder grade of the mix as specified in the mix requirements table of the plans.

Illinois Modified AASHTO T 324 Requirements ^{1/}

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

- 1/ When produced at temperatures of 275 ± 5 °F (135 ± 3 °C) or less, loose Warm Mix Asphalt shall be oven aged at 270 ± 5 °F (132 ± 3 °C) for two hours prior to gyratory compaction of Hamburg Wheel specimens.

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

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

Production Testing. Revise first paragraph of Article 1030.06(a) of the Standard Specifications to read:

"(a) High ESAL, IL-4.75, WMA, and SMA Mixtures. For each contract, a 300 ton (275 metric tons) test strip, except for SMA mixtures it will be 400 ton (363 metric ton), will be required at the beginning of HMA production for each mixture at the beginning of 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."

Add the following after the sixth paragraph in Article 1030.06 (a) of the Standard Specifications:

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

If the mixture fails to meet the Hamburg Wheel criteria, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria"

Method of Measurement:

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_{mb} ."

Basis of Payment.

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

“Stone matrix asphalt will be paid for at the contract unit price per ton (metric ton) for POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, STONE MATRIX ASPHALT, of the mixture composition and Ndesign specified; and POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, STONE MATRIX ASPHALT, of the mixture composition and Ndesign specified.”

FRICITION AGGREGATE

Effective: January 1, 2011
 Revised: April 29, 2016

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> ^{5/} : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
HMA Low ESAL	Stabilized Subbase or Shoulders	<u>Allowed Alone or in Combination</u> ^{5/} : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{1/} Crushed Concrete

Use	Mixture	Aggregates Allowed	
HMA High ESAL Low ESAL	Binder IL-19.0 or IL-19.0L SMA Binder	<u>Allowed Alone or in Combination</u> ^{5/ 6/} : Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete ^{3/}	
HMA High ESAL Low ESAL	C Surface and Leveling Binder IL-9.5 or IL-9.5L SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> ^{5/} : Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/} Crushed Concrete ^{3/}	
HMA High ESAL	D Surface and Leveling Binder IL-9.5 SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> ^{5/} : Crushed Gravel Carbonate Crushed Stone (other than Limestone) ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/} Crushed Concrete ^{3/}	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		25% Limestone	Dolomite
		50% Limestone	Any Mixture D aggregate other than Dolomite
75% Limestone	Crushed Slag (ACBF) or Crushed Sandstone		

Use	Mixture	Aggregates Allowed	
HMA High ESAL	E Surface IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination</u> ^{5/ 6/} :	
		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 ^{2/}	Any Mixture E aggregate
75% Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone		
75% Crushed Gravel ^{2/} or Crushed Concrete ^{3/}	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> ^{5/ 6/} :	
		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% Crushed Gravel ^{2/} , Crushed Concrete ^{3/} , or Dolomite ^{2/}	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. In SMA Ndesign 50, carbonate crushed stone shall not be blended with any of the other aggregates allowed alone in Ndesign 50 SMA binder or Ndesign 50 SMA surface.
- 3/ Crushed concrete will not be permitted in SMA mixes.
- 4/ Crushed steel slag shall not be used as leveling binder.
- 5/ When 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.”

GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER

Effective: June 26, 2006

Revised: April 1, 2016

Add the following to the end of article 1032.05 of the Standard Specifications:

“(c) Ground Tire Rubber (GTR) Modified Asphalt Binder. A quantity of 10.0 to 14.0 percent GTR (Note 1) shall be blended by dry unit weight with a PG 64-28 to make a GTR 70-28 or a PG 58-28 to make a GTR 64-28. The base PG 64-28 and PG 58-28 asphalt binders shall meet the requirements of Article 1032.05(a). Compatible polymers may be added during production. The GTR modified asphalt binder shall meet the requirements of the following table.

Test	Asphalt Grade GTR 70-28	Asphalt Grade GTR 64-28
Flash Point (C.O.C.), AASHTO T 48, °F (°C), min.	450 (232)	450 (232)
Rotational Viscosity, AASHTO T 316 @ 275 °F (135 °C), Poises, Pa·s, max.	30 (3)	30 (3)
Softening Point, AASHTO T 53, °F (°C), min.	135 (57)	130 (54)
Elastic Recovery, ASTM D 6084, Procedure A (sieve waived) @ 77 °F, (25 °C), aged, ss, 100 mm elongation, 5 cm/min., cut immediately, %, min.	65	65

Note 1. GTR shall be produced from processing automobile and/or light truck tires by the ambient grinding method. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall contain no free metal particles or other materials. A mineral powder (such as talc) meeting the requirements of AASHTO M 17 may be added, up to a maximum of four

percent by weight of GTR to reduce sticking and caking of the GTR particles. When tested in accordance with Illinois modified AASHTO T 27, a 50 g sample of the GTR shall conform to the following gradation requirements:

Sieve Size	Percent Passing
No. 16 (1.18 mm)	100
No. 30 (600 μm)	95 ± 5
No. 50 (300 μm)	> 20

Add the following to the end of Note 1. of article 1030.03 of the Standard Specifications:

“A dedicated storage tank for the Ground Tire Rubber (GTR) modified asphalt binder shall be provided. This tank must be capable of providing continuous mechanical mixing throughout by continuous agitation and recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the temperature of the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ± 0.40 percent.”

Revise 1030.02(c) of the Standard Specifications to read:

“(c) RAP Materials (Note 5)1031”

Add the following note to 1030.02 of the Standard Specifications:

Note 5. When using reclaimed asphalt pavement and/or reclaimed asphalt shingles, the maximum asphalt binder replacement percentage shall be according to the most recent special provision for recycled materials.

COARSE AGGREGATE FOR BACKFILL, TRENCH BACKFILL AND BEDDING

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

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."

ADJUSTMENT AND RECONSTRUCTIONS

Effective: March 15, 2011

Revise the first paragraph of Article 602.04 to read:

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

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

"Castings shall be set to the finished pavement elevation so that no subsequent adjustment will be necessary, and the space around the casting shall be filled with Class PP-1 concrete, unless

otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b.”

Revise Article 603.05 to read:

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

Revise Article 603.06 to read:

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

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

Revise the first sentence of Article 603.07 to read:

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

DRAINAGE AND INLET PROTECTION UNDER TRAFFIC

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

Add the following to Article 603.02 of the Standard Specifications:

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

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

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

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

Revise Article 603.07 of the Standard Specifications to read:

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

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

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

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

Placement shall be according to the manufacturer’s specifications.

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

GENERAL ELECTRICAL REQUIREMENTS

Effective: June 1, 2016

This special provision replaces Articles 801.01 – 801.07, 801.09 – 801-16 of the Standard Specifications.

Definition. Codes, standards, and industry specifications cited for electrical work shall be by definition the latest adopted version thereof, unless indicated otherwise.

Materials by definition shall include electrical equipment, fittings, devices, motors, appliances, fixtures, apparatus, all hardware and appurtenances, and the like, used as part of, or in connection with, electrical installation.

Standards of Installation. Materials shall be installed according to the manufacturer's recommendations, the NEC, OSHA, the NESC, and AASHTO's Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.

All like materials shall be from the same manufacturer. Listed and labeled materials shall be used whenever possible. The listing shall be according to UL or an approved equivalent.

Safety and Protection. Safety and protection requirements shall be as follows.

Safety. Electrical systems shall not be left in an exposed or otherwise hazardous condition. All electrical boxes, cabinets, pole handholes, etc. which contain wiring, either energized or non-energized, shall be closed or shall have covers in place and be locked when possible, during nonworking hours.

Protection. Electrical raceway or duct openings shall be capped or otherwise sealed from the entrance of water and dirt. Wiring shall be protected from mechanical injury.

Equipment Grounding Conductor. All electrical systems, materials, and appurtenances shall be grounded. Good ground continuity throughout the electrical system shall be assured, even though every detail of the requirements is not specified or shown. Electrical circuits shall have a continuous insulated equipment grounding conductor. When metallic conduit is used, it shall be bonded to the equipment grounding conductor, but shall not be used as the equipment grounding conductor.

Detector loop lead-in circuits, circuits under 50 volts, and runs of fiber optic cable will not require an equipment grounding conductor.

Where connections are made to painted surfaces, the paint shall be scraped to fully expose metal at the connection point. After the connection is completed, the paint system shall be repaired to the satisfaction of the Engineer.

Bonding of all boxes and other metallic enclosures throughout the wiring system to the equipment grounding conductor shall be made using a splice and pigtail connection. Mechanical connectors shall have a serrated washer at the contact surface.

All connections to structural steel or fencing shall be made with exothermic welds. Care shall be taken not to weaken load carrying members. Where connections are made to epoxy coated reinforcing steel, the epoxy coating shall be sufficiently removed to facilitate a mechanical connection. The epoxy coating shall be repaired to the satisfaction of the Engineer. Where connections are made to insulated conductors, the connection shall be wrapped with at least four layers of electrical tape extended 6 in. (150 mm) onto the conductor insulation.

Submittals. At the preconstruction meeting, the Contractor shall submit a written listing of manufacturers for all major electrical and mechanical items. The list of manufacturers shall be binding, except by written request from the Contractor and approval by the Engineer. The request shall include acceptable reasons and documentation for the change.

Major items shall include, but not limited to the following:

Type of Work (discipline)	Item
All Electrical Work	Electric Service Metering Emergency Standby System Transformers Cable Unit Duct Splices Conduit Surge Suppression System
Lighting	Tower Pole Luminaire Foundation Breakaway Device Controllers Control Cabinet and Peripherals
ITS	Controller Cabinet and Peripherals CCTV Cameras Camera Structures Ethernet Switches Detectors Detector Loop Fiber Optic Cable

Within 30 calendar days after contract execution, the Contractor shall submit, for approval, one copy each of the manufacturer's product data (for standard products and components) and detailed shop drawings (for fabricated items). Submittals for the materials for each individual

pay item shall be complete in every respect. Submittals which include multiple pay items shall have all submittal material for each item or group of items covered by a particular specification, grouped together and the applicable pay item identified. Various submittals shall, when taken together, form a complete coordinated package. A partial submittal will be returned without review unless prior written permission is obtained from the Engineer.

The submittal shall be properly identified by route, section, county, and contract number.

The Contractor shall have reviewed the submittal material and affixed his/her stamp of approval, with date and signature, for each individual item. In case of subcontractor submittal, both the subcontractor and the Contractor shall review, sign, and stamp their approval on the submittal.

Illegible print, incompleteness, inaccuracy, or lack of coordination will be grounds for rejection.

Items from multiple disciplines shall not be combined on a single submittal and transmittal. Items for lighting, signals, surveillance and CCTV must be in separate submittals since they may be reviewed by various personnel in various locations.

The Engineer will review the submittals for conformance with the design concept of the project according to Article 105.04 and the following. The Engineer will stamp the drawings indicating their status as "Approved", "Approved as Noted", "Disapproved", or "Information Only". Since the Engineer's review is for conformance with the design concept only, it shall be 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, or layout drawings by the Engineer's approval thereof. The Contractor shall still be in full compliance with contract and specification requirements.

All submitted items reviewed and marked "Disapproved" or "Approved as Noted" shall be resubmitted by the Contractor in their entirety, unless otherwise indicated within the submittal comments.

Work shall not begin until the Engineer has approved the submittal. Material installed prior to approval by the Engineer, will be subject to removal and replacement at no additional cost to the Department.

Unless otherwise approved by the Engineer, all of the above items shall be submitted to the Engineer at the same time. Each item shall be properly identified by route, section, and contract number.

Certifications. When certifications are specified and are available prior to material manufacture, the certification shall be included in the submittal information. When specified and only available after manufacture, the submittal shall include a statement of intent to furnish certification. All certificates shall be complete with all appropriate test dates and data.

Authorized Project Delay. See Article 801.08

Maintenance transfer and Preconstruction Inspection:

General. Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall request a maintenance transfer and preconstruction site inspection, to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any lighting and/or traffic control systems which may be affected by the work. The request for the maintenance transfer and preconstruction inspection shall be made no less than seven (7) calendar days prior to the desired inspection date. The maintenance transfer and preconstruction inspection shall:

Establish the procedures for formal transfer of maintenance responsibility required for the construction period.

Establish the approximate location and operating condition of lighting and/or traffic control systems which may be affected by the work

Marking of Existing Cable Systems. The party responsible for maintenance of any existing lighting and/or traffic control systems at the project site will, at the Contractor's request, mark and/or stake, once per location, all underground cable routes owned or maintained by the State. A project may involve multiple "locations" where separated electrical systems are involved (i.e. different controllers). The markings shall be taken to have a horizontal tolerance of at least 304.8 mm (one (1) foot) to either side.. The request for the cable locations and marking shall be made at the same time the request for the maintenance transfer and preconstruction inspection is made. The Contractor shall exercise extreme caution where existing buried cable runs are involved. The markings of existing systems are made strictly for assistance to the Contractor and this does not relieve the Contractor of responsibility for the repair or replacement of any cable run damaged in the course of his work, as specified elsewhere herein. Note that the contractor shall be entitled to only one request for location marking of existing systems and that multiple requests may only be honored at the contractor's expense. No locates will be made after maintenance is transferred, unless it is at the contractor's expense.

Condition of Existing Systems. The Contractor shall conduct an inventory of all existing electrical system equipment within the project limits, which may be affected by the work, making note of any parts which are found broken or missing, defective or malfunctioning. Megger and load readings shall be taken for all existing circuits which will remain in place or be modified. If a circuit is to be taken out in its entirety, then readings do not have to be taken. The inventory and test data shall be reviewed with and approved by the Engineer and a record of the inventory shall be submitted to the Engineer for the record. Without such a record, all systems transferred to the Contractor for maintenance during construction shall be returned at the end of construction in complete, fully operating condition."

Marking Proposed Locations for Highway Lighting System. The Contractor shall mark or stake the proposed locations of all poles, cabinets, junction boxes, pull boxes, handholes, cable routes, pavement crossings, and other items pertinent to the work. A proposed location inspection by the Engineer shall be requested prior to any excavation, construction, or installation work after all proposed installation locations are marked. Any work installed without location approval is subject to corrective action at no additional cost to the Department.

Inspection of electrical work. Inspection of electrical work shall be according to Article 105.12 and the following.

Before any splice, tap, or electrical connection is covered in handholes, junction boxes, light poles, or other enclosures, the Contractor shall notify and make available such wiring for the Engineer's inspection.

Maintenance and Responsibility During Construction.

Lighting Operation and Maintenance Responsibility. The scope of work shall include the assumption of responsibility for the continuing operation and maintenance of the existing, proposed, temporary, sign and navigation lighting, or other lighting systems and all appurtenances affected by the work as specified elsewhere herein. Maintenance of lighting systems is specified elsewhere and will be paid for separately

The proposed lighting system must be operational prior to opening the roadway to traffic unless temporary lighting exists which is designed and installed to properly illuminate the roadway.

Energy and Demand Charges. The payment of basic energy and demand charges by the electric utility for existing lighting which remains in service will continue as a responsibility of the Owner, unless otherwise indicated. Unless otherwise indicated or required by the Engineer duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously at the Owner's expense and lighting systems shall not be kept in operation during long daytime periods at the Owner's expense. Upon written authorization from the Engineer to place a proposed new lighting system in service, whether the system has passed final acceptance or not, (such as to allow temporary lighting to be removed), the Owner will accept responsibility for energy and demand charges for such lighting, effective the date of authorization. All other energy and demand payments to the utility shall be the responsibility of the Contractor until final acceptance.

Damage to Electrical Systems. Should damage occur to any existing electrical systems through the Contractor's operations, the Engineer will designate the repairs as emergency or non-emergency in nature.

Emergency repairs shall be made by the Contractor, or as determined by the Engineer, the Department, or its agent. Non-emergency repairs shall be performed by the Contractor within six working days following discovery or notification. All repairs shall be performed in an expeditious manner to assure all electrical systems are operational as soon as possible. The repairs shall be performed at no additional cost to the Department.

Lighting. An outage will be considered an emergency when three or more lights on a circuit or three successive lights are not operational. Knocked down materials, which result in a danger to the motoring public, will be considered an emergency repair.

Temporary aerial multi-conductor cable, with grounded messenger cable, will be permitted if it does not interfere with traffic or other operations, and if the Engineer determines it does not require unacceptable modification to existing installations.

Testing. Before final inspection, the electrical work shall be tested. Tests may be made progressively as parts of the work are completed, or may be made when the work is complete. Tests shall be made in the presence of the Engineer. Items which fail to test satisfactorily shall be repaired or replaced. Tests shall include checks of control operation, system voltages, cable insulation, and ground resistance and continuity.

The forms for recording test readings will be available from the Engineer in electronic format. The Contractor shall provide the Engineer with a written report of all test data including the following:

- Voltage Tests
- Amperage Tests
- Insulation Resistance Tests
- Continuity tests
- Detector Loop Tests

Lighting systems. The following tests shall be made.

- (1) Voltage Measurements. Voltages in the cabinet from phase to phase and phase to neutral, at no load and at full load, shall be measured and recorded. Voltage readings at the last termination of each circuit shall be measured and recorded.
- (2) Insulation Resistance. Insulation resistance to ground of each circuit at the cabinet, with all loads connected, shall be measured and recorded.

On tests of new cable runs, the readings shall exceed 50 megohms for phase and neutral conductors with a connected load over 20 A, and shall exceed 100 megohms for conductors with a connected load of 20 A or less.

On tests of cable runs which include cables which were existing in service prior to this contract, the resistance readings shall be the same or better than the readings recorded at the maintenance transfer at the beginning of the contract. Measurements shall be taken with a megohm meter approved by the Engineer.

- (3) Loads. The current of each circuit, phase main, and neutral shall be measured and recorded. The Engineer may direct reasonable circuit rearrangement. The current readings shall be within ten percent of the connected load based on material ratings.
- (4) Ground Continuity. Resistance of the system ground as taken from the farthest extension of each circuit run from the controller (i.e. check of equipment ground continuity for each circuit) shall be measured and recorded. Readings shall not exceed 2.0 ohms, regardless of the length of the circuit.
- (5) Resistance of Grounding Electrodes. Resistance to ground of all grounding electrodes shall be measured and recorded. Measurements shall be made with a

ground tester during dry soil conditions as approved by the Engineer. Resistance to ground shall not exceed 10 ohms.

ITS. The following test shall be made in addition to the lighting system test above.

Detector Loops. Before and after permanently securing the loop in the pavement, the resistance, inductance, resistance to ground, and quality factor for each loop and lead-in circuit shall be tested. The loop and lead-in circuit shall have an inductance between 20 and 2500 microhenries. The resistance to ground shall be a minimum of 50 megohms under any conditions of weather or moisture. The quality factor (Q) shall be 5 or greater.

Fiber Optic Systems. Fiber optic testing shall be performed as required in the fiber optic cable special provision and the fiber optic splice special provision.

All test results shall be furnished to the Engineer seven working days before the date the inspection is scheduled.

Contract Guarantee. The Contractor shall provide a written guarantee for all electrical work provided under the contract for a period of six months after the date of acceptance with the following warranties and guarantees.

- (a) The manufacturer's standard written warranty for each piece of electrical material or apparatus furnished under the contract. The warranty for light emitting diode (LED) modules, including the maintained minimum luminance, shall cover a minimum of 60 months from the date of delivery.
- (b) The Contractor's written guarantee that, for a period of six months after the date of final acceptance of the work, all necessary repairs to or replacement of said warranted material or apparatus for reasons not proven to have been caused by negligence on the part of the user or acts of a third party shall be made by the Contractor at no additional cost to the Department.
- (c) The Contractor's written guarantee for satisfactory operation of all electrical systems furnished and constructed under the contract for a period of six months after final acceptance of the work.

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

Record Drawings. Alterations and additions to the electrical installation made during the execution of the work shall be neatly and plainly marked in red by the Contractor on the full-size set of record drawings kept at the Engineer's field office for the project. These drawings shall be updated on a daily basis and shall be available for inspection by the Engineer during the course of the work. The record drawings shall include the following:

- Cover Sheet
- Summary of Quantities, electrical items only
- Legends, Schedules and Notes
- Plan Sheet
- Pertinent Details
- Single Line Diagram
- Other useful information useful to locate and maintain the systems.

Any modifications to the details shall be indicated. Final quantities used shall be indicated on the Summary of Quantities. Foundation depths used shall also be listed.

As part of the record drawings, the Contractor shall inventory all materials, new or existing, on the project and record information on inventory sheets provided by the Engineer.

The inventory shall include:

- Location of Equipment, including rack, chassis, slot as applicable.
- Designation of Equipment
- Equipment manufacturer
- Equipment model number
- Equipment Version Number
- Equipment Configuration
 - Addressing, IP or other
 - Settings, hardware or programmed
- Equipment Serial Number

The following electronic inventory forms are available from the Engineer:

- Lighting Controller Inventory
- Lighting Inventory
- Light Tower Inspection Checklist
- ITS Location Inventory

The information shall be entered in the forms; handwritten entries will not be acceptable; except for signatures. Electronic file shall also be included in the documentation.

When the work is complete, and seven days before the request for a final inspection, the 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's for review and approval.

In addition to the record drawings, PDF copies of the final catalog cuts which have been Approved and Approved as Noted with applicable follow-up shall be submitted along with the record drawings. The PDF files shall clearly indicate either by filename or PDF table of contents the respective pay item number. Specific part or model numbers of items which have been selected shall be clearly visible. Hard copies of the catalog are not required with this submittal.

The Contractor shall provide two sets of electronically produced drawings in a moisture proof pouch to be kept on the inside door of the controller cabinet or other location approved by the Engineer. These drawings shall show the final as-built circuit orientation(s) of the project in the form of a single line diagram with all luminaires numbered and clearly identified for each circuit.

Final documentation shall be submitted as a complete submittal package, i.e. record drawings, test results, inventory, etc. shall be submitted at the same time. Partial piecemeal submittals will be rejected without review. A total of five hardcopies and CDROMs of the final documentation shall be submitted.

GPS Documentation. In addition to the specified record drawings, the Contractor shall record GPS coordinates of the following electrical components being installed, modified or being affected in other ways by this contract:

- All light poles and light towers.
- Handholes and vaults.
- Junction Boxes
- Conduit roadway crossings.
- Controllers.
- Control Buildings.
- Structures with electrical connections, i.e. DMS, lighted signs.
- Electric Service locations.
- CCTV Camera installations.
- Roadway Surveillance installations.
- Fiber Optic Splice Locations.
- Fiber Optic Cables. Coordinates shall be recorded along each fiber optic cable route every 200 feet.
- All fiber optic slack locations shall be identified with quantity of slack cable included. When sequential cable markings are available, those markings shall be documented as cable marking into enclosure and marking out of enclosure.

Datum to be used shall be North American 1983.

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

1. District
2. Description of item
3. Designation
4. Use
5. Approximate station
6. Contract Number
7. Date
8. Owner
9. Latitude

- 10. Longitude
- 11. Comments

A spreadsheet template will be available from the Engineer for use by the Contractor.

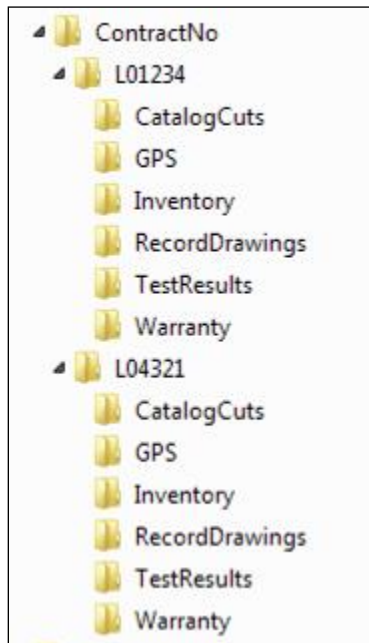
Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the Engineer to be accurate within 20 feet. Upon verification, data collection can begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified. **Data collection prior to the submittal and review of the sample data of existing data points will be unacceptable and rejected.**

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 minimum 5 meter accuracy after post processing.

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

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

The documents on the CD shall be organized by the Electrical Maintenance Contract Management System (EMCMS) location designation. If multiple EMCMS locations are within the contract, separate folders shall be utilized for each location as follows:



Extraneous information not pertaining to the specific EMCMS location shall not be included in that particular folder and sub-folder.

The inspection will not be made until after the delivery of acceptable record drawings, specified certifications, and the required guarantees.

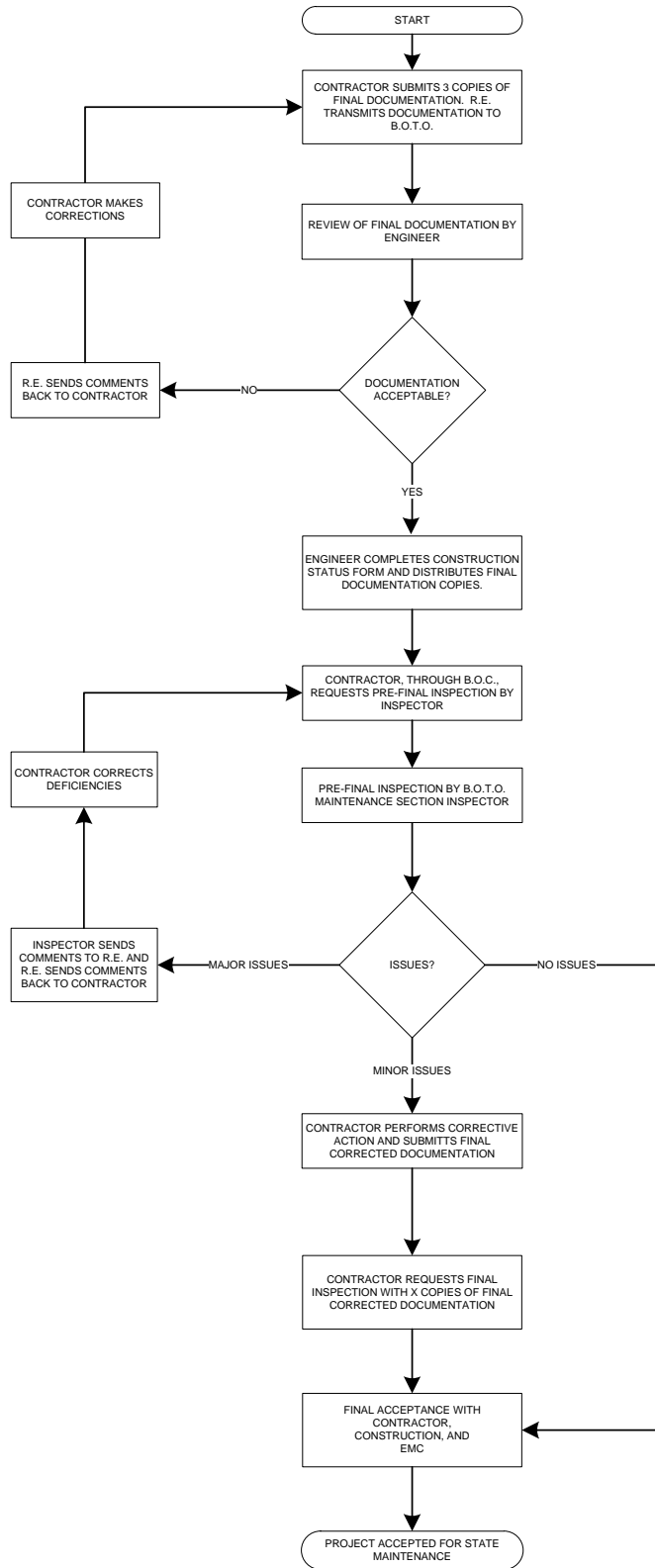
The Final Acceptance Documentation Checklist shall be completed and is contained elsewhere herein.

All CD's shall be labeled as illustrated in the CD Label Template contained herein.

Acceptance. Acceptance of electrical work will be given at the time when the Department assumes the responsibility to protect and maintain the work according to Article 107.30 or at the time of final inspection.

When the electrical work is complete, tested, and fully operational, the Contractor shall schedule an inspection for acceptance with the Engineer no less than seven working days prior to the desired inspection date. The Contractor shall furnish the necessary labor and equipment to make the inspection.

A written record of the test readings taken by the Contractor according to Article 801.13 shall be furnished to the Engineer seven working days before the date the inspection is scheduled. Inspection will not be made until after the delivery of acceptable record drawings, specified certifications, and the required guarantees.



Final Acceptance Documentation Checklist

LOCATION	
Route	Common Name
Limits	Section
Contract #	County
Controller Designation(s)	EMC Database Location Number(s)

ITEM	Contractor (Verify)	Resident Engineer (Verify)
Record Drawings -Four hardcopies (11" x 17") -Scanned to two CD-ROMs	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Field Inspection Tests -Voltage -Amperage -Cable Insulation Resistance -Continuity -Controller Ground Rod Resistance (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
GPS Coordinates -Excel file (Check Special Provisions, Excel file scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Job Warranty Letter (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Catalog Cut Submittals -Approved & Approved as Noted (Scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Lighting Inventory Form (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Lighting Controller Inventory Form (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Light Tower Inspection Form (If applicable, Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>

Four Hardcopies & scanned to two CD's shall be submitted for all items above. The CD ROM shall be labeled as shown in the example contained herein.

General Notes:

Record Drawings – The record drawings should contain contract cover sheet, summary of quantities showing all lighting pay item sheets, proposed lighting plans and lighting detail sheets. Submit hardcopies 11 x 17 size. Include the original “red-ink” copy. The red-ink markup should be neatly drawn. Record drawings copies should be legible. Blurred copies will not be acceptable. Temporary lighting plans and removal lighting plans should not be part of the set.

Field Inspection Tests – Testing should be done for proposed cables. Testing shall be per standard specifications. Forms shall be neatly filled out.

GPS Coordinates – Check special provisions “General Electrical Requirements”. Submit electronic “EXCEL” file.

Job Warranty Letter – See standard specifications.

Cutsheet Submittal – See special provisions “General Electrical Requirements”. Scan Approved and Approved as Noted cutsheets.

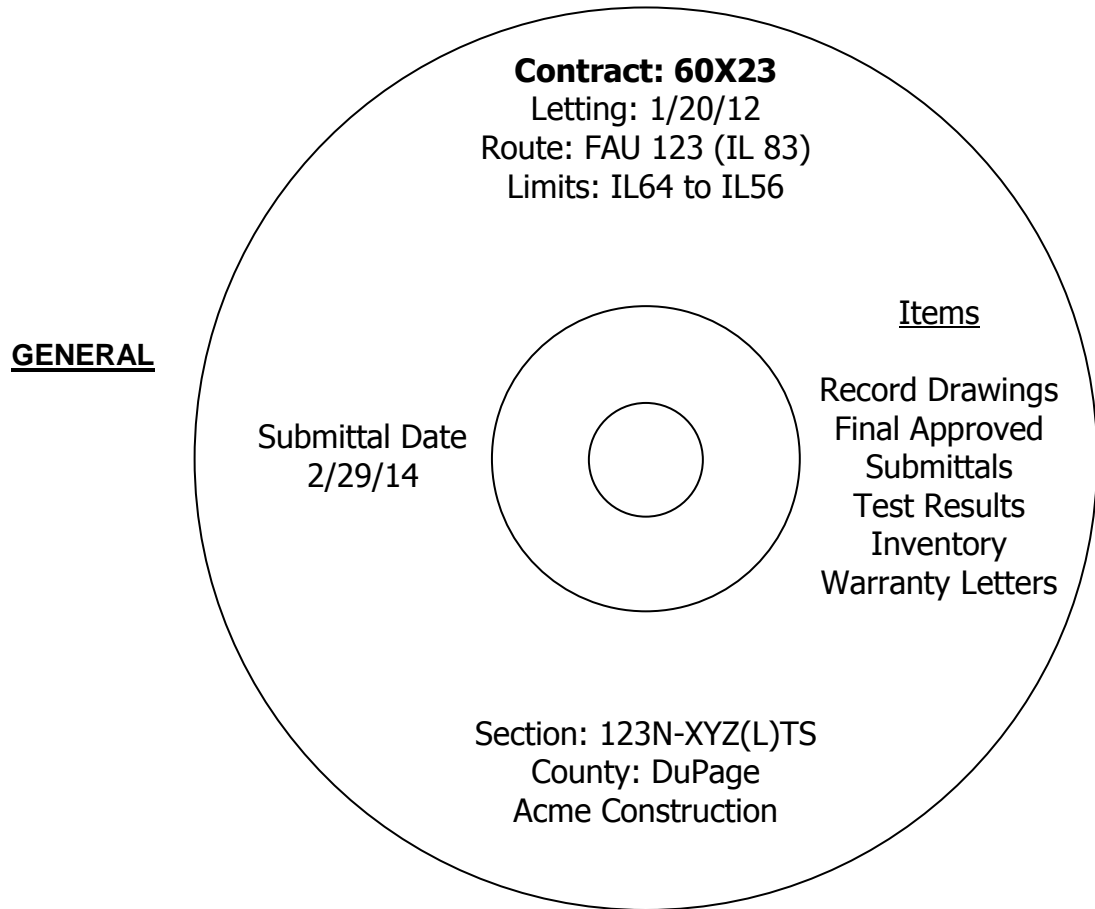
Lighting Inventory Form – Inventory form should include only proposed light poles, proposed light towers, proposed combination (traffic/light pole) lighting and proposed underpass luminaires.

Lighting Controller Inventory Form – Form should be filled out for only proposed lighting controllers.

Light Tower Safety Inspection Form – Form should be filled out for each proposed light tower.

CD LABEL FORMAT TEMPLATE.

Label must be printed; hand written labels are unacceptable and will be rejected.



UNDERGROUND RACEWAYS

Effective: March 1, 2015

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.”

“Coilable non-metallic conduit shall be machine straightened to remove the longitudinal curvature caused by coiling the conduit onto reels prior to installing in trench, encasing in concrete or embedding in structure. The straightening shall not deform the cross-section of the conduit such that any two measured outside diameters, each from any location and at any orientation around the longitudinal axis along the conduit differ by more than 6 mm (0.25”).” The longitudinal axis of the straightened conduit shall not deviate by more than 20 mm per meter (0.25” per foot” from a straight line. The HDPE and straightening mechanism manufacturer operating temperatures shall be followed.

UNIT DUCT (D-1)

Effective: January 1, 2012

Revise the first paragraph of Article 810.04 to read:

“The unit duct shall be installed at a minimum depth of 30-inches (760 mm) unless otherwise directed by the Engineer.”

Revise Article 1088.01(c) to read:

“(c) Coilable Nonmetallic Conduit.

General:

The duct shall be a plastic duct which is intended for underground use and which can be manufactured and coiled or reeled in continuous transportable lengths and uncoiled for further processing and/or installation without adversely affecting its properties of performance. The duct shall be a plastic duct which is intended for underground use and can be manufactured and coiled or reeled in continuous transportable lengths and uncoiled for further processing and/or installation without adversely affecting its properties of performance.

The duct shall be made of high density polyethylene which shall meet the requirements of ASTM D 2447, for schedule 40. The duct shall be composed of black high density polyethylene meeting the requirements of ASTM D 3350, Class C, Grade P33. The wall thickness shall be in accordance with Table 2 for ASTM D 2447.

The duct shall be UL Listed per 651-B for continuous length HDPE coiled conduit. The duct shall also comply with NEC Article 354.100 and 354.120.

Submittal information shall demonstrate compliance with the details of these requirements.

Dimensions:

Duct dimensions shall conform to the standards listed in ASTM D2447. Submittal information shall demonstrate compliance with these requirements.

Nominal Size		Nominal I.D.		Nominal O.D.		Minimum Wall	
mm	in	mm	in	mm	in	mm	in
31.75	1.25	35.05	1.380	42.16	1.660	3.556 +0.51	0.140 +0.020
38.1	1.50	40.89	1.610	48.26	1.900	3.683 +0.51	0.145 +0.020

Nominal Size		Pulled Tensile	
mm	in	N	lbs
31.75	1.25	3322	747
38.1	1.50	3972	893

Marking:

As specified in NEMA Standard Publication No. TC-7, the duct shall be clearly and durably marked at least every 3.05 meters (10 feet) with the material designation (HDPE for high density polyethylene), nominal size of the duct and the name and/or trademark of the manufacturer.

Performance Tests:

Polyethylene Duct testing procedures and test results shall meet the requirements of UL 651. Certified copies of the test report shall be submitted to the Engineer prior to the installation of the duct. Duct crush test results shall meet or exceed the following requirements:

Duct Diameter		Min. force required to deform sample 50%	
mm	in	N	lbs
35	1.25	4937	1110
41	1.5	4559	1025

WIRE AND CABLE (D-1)

Effective: January 1, 2012

Add the following to the first paragraph of Article 1066.02(a):

“The cable shall be rated at a minimum of 90°C dry and 75°C wet and shall be suitable for installation in wet and dry locations, and shall be resistant to oils and chemicals.”

Revise the Aerial Electric Cable Properties table of Article 1066.03(a)(3) to read:

Aerial Electric Cable Properties

Phase Conductor			Messenger wire		
Size AWG	Stranding	Average Insulation Thickness		Minimum Size AWG	Stranding
		mm	mils		
6	7	1.1	(45)	6	6/1
4	7	1.1	(45)	4	6/1
2	7	1.1	(45)	2	6/1
1/0	19	1.5	(60)	1/0	6/1
2/0	19	1.5	(60)	2/0	6/1
3/0	19	1.5	(60)	3/0	6/1
4/0	19	1.5	(60)	4/0	6/1

Add the following to Article 1066.03(b) of the Standard Specifications:

“Cable sized No. 2 AWG and smaller shall be U.L. listed Type RHH/RHW and may be Type RHH/RHW/USE. Cable sized larger than No. 2 AWG shall be U.L. listed Type RHH/RHW/USE.”

Revise Article 1066.04 to read:

“Aerial Cable Assembly. The aerial cable shall be an assembly of insulated aluminum conductors according to Section 1066.02 and 1066.03. Unless otherwise indicated, the cable assembly shall be composed of three insulated conductors and a steel reinforced bare aluminum conductor (ACSR) to be used as the ground conductor. Unless otherwise indicated, the code word designation of this cable assembly is “Palomino”. The steel reinforced aluminum conductor shall conform to ASTM B-232. The cable shall be assembled according to ANSI/ICEA S-76-474.”

Revise the second paragraph of Article 1066.05 to read:

“The tape shall have reinforced metallic detection capabilities consisting of a woven reinforced polyethylene tape with a metallic core or backing.”

DETECTOR LOOP REPLACEMENT AND/OR INSTALLATION (ROADWAY GRINDING, RESURFACING, & PATCHING OPERATIONS)

Effective: January 1, 1985

Revised: January 5, 2016

886.02TS

The following Traffic Signal Special Provisions and the “District 1 Standard Traffic Signal Design Details” supplement the requirements of the State of Illinois “Standard Specifications for Road and Bridge Construction” Sections 810, 886, 1079 and 1088.

The intent of this Special Provision is to prescribe the materials and construction methods commonly used to replace traffic signal detector loops and replace magnetic signal detectors with detector loops during roadway resurfacing, grinding and patching operations. Loop detector replacement will not require the transfer of traffic signal maintenance from the District Electrical Maintenance Contractor to this contract’s electrical contractor. Replacement of magnetic detector will require wiring revisions inside the control cabinet and therefore the transfer of maintenance will be required. All material furnished shall be new. The locations and the details of all installations shall be as indicated on the Plans or as directed by the Engineer.

The work to be provided under this contract consists of furnishing and installing all traffic signal work as specified on the Plans and as specified herein in a manner acceptable and approved by the Engineer.

Notification of Intent to Work.

Contracts such as pavement grinding or patching which result in the destruction of traffic signal detection require a notification of intent to work and an inspection. A minimum of seven (7) working days prior to the detection removal, the Contractor shall notify the:

- Traffic Signal Maintenance and Operations Engineer at (847)705-4424
- IDOT Electrical Maintenance Contractor at (773) 287-7600

at which time arrangements will be made to adjust the traffic controller timing to compensate for the absence of detection.

Failure to provide proper notification may require the District's Electrical Maintenance Contractor to be called to investigate complaints of inadequate traffic signal timing. All costs associated with these expenses will be paid for by the Contractor at no additional expense to the Department according to Section 109 of the "Standard Specifications."

Acceptance of Material.

The Contractor shall provide:

1. All material approval requests shall be submitted a minimum of seven (7) days prior to the delivery of equipment to the job site, or within 30 consecutive calendar days after the contract is awarded, or within 15 consecutive calendar days after the preconstruction meeting, whichever is first.
2. Four (4) copies of a letter listing the vendor's name and model numbers of the proposed equipment shall be supplied. The letter will be reviewed by the Traffic Design Engineer to determine whether the equipment to be used is approved. The letters will be stamped as approved or not approved accordingly and returned to the Contractor.
3. One (1) copy of material catalog cuts.
4. The contract number, permit number or intersection location must be on each sheet of the letter and material catalog cuts as required in items 2 and 3.

Inspection of Construction.

When the road is open to traffic, except as otherwise provided in Section 801 and 850 of the Standard Specifications, the Contractor must request a turn-on and inspection of the completed detector loop installation at each separate location. This request must be made to the 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.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal "turn on." If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written correspondence from the Engineer. If this work is not completed in time, the Department reserves the right to have the work completed by others at the Contractor's expense.

All cost of work and materials required to comply with the above requirements shall be included in the pay item bid price, 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 will be subject to removal and disposal at the Contractor's expense.

Restoration of Work Area.

Restoration of the traffic signal work area due to the detector loop installation and/or replacement shall be included in the cost of this item. All roadway surfaces such as shoulders,

medians, sidewalks, pavement shall be replaced as shown in the plans or in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded.

Removal, Disposal and Salvage of Existing Traffic Signal Equipment.

The removal, disposal, and salvage of existing traffic signal equipment shall be included in the cost of this item. All material and equipment removed shall become the property of the Contractor and disposed of by the Contractor outside the State's right-of-way. No additional compensation shall be provided to the Contractor for removal, disposal or salvage expense for the work in this contract.

DETECTOR LOOP REPLACEMENT.

This work shall consist of replacing existing detector loops which are destroyed during grinding, resurfacing, or patching operations.

If damage to the detector loop is unavoidable, replacement of the existing detection system will be necessary. This work shall be completed by an approved Electrical Contractor as directed by the Engineer.

Replacement of the loops shall be accomplished in the following manner: The Engineer shall mark the location of the replacement loops. The Traffic Signal Maintenance and Operations Engineer shall be called to approve loop locations prior to the cutting of the pavement. The Contractor may reuse the existing coilable non-metallic conduit (CNC) located between the existing handhole and the pavement if it hasn't been damaged. CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways to the handholes. All burrs shall be removed from the edges of the existing conduit which could cause damage to the new detector loop during installation. If the existing conduit is damaged beyond repair, if it cannot be located, or if additional conduits are required for each proposed loop; the Contractor shall be required to drill through the existing pavement into the appropriate handhole, and install 1" (25 mm) CNC. This work and the required materials shall not be paid for separately but shall be included in the pay item Detector Loop Replacement. Once suitable CNC raceways is established, the loop may be cut, installed, sealed and spliced to the twisted-shielded lead-in cable in the handhole. All loops installed in new asphalt pavement shall be installed in the binder course and not in the surface course. The edge of pavement or the curb shall be cut with a 1/4" (6.3 mm) deep x 4" (100 mm) saw-cut to mark location of each loop lead-in.

A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall have the proposed loop locations marked and contact the Traffic Signal Maintenance and Operations Engineer (847)705-4424 to inspect and approve the layout.

Loop detectors shall be installed according to the requirements of the "District 1 Standard Traffic Signal Design Details." Saw-cuts 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 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. The lead-in wire, including all necessary

connections for proper operation, from the edge of pavement to the handhole, shall be included in the detector loop pay item.

Loop sealant shall be a two-component thixotropic chemically cured polyurethane. The sealant shall be installed 1/8" (3 mm) below the pavement surface. If installed above the surface the excess shall be removed immediately.

Round loop(s) 6 ft (1.8 m) diameter may be substituted for 6 ft (1.8 m) by 6 ft (1.8 m) square loop(s) and shall be paid for as 24 feet (7.2 m) of detector loop.

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.

Heat shrink splices shall be used according to the "District 1 Standard Traffic Signal Design Details."

Detector loop replacement shall be measured along the sawed slot in the pavement containing the loop cable up to the edge of pavement, rather than the actual length of the wire in the slot. Drilling handholes, sawing the pavement, furnishing and installing CNC to the appropriate handhole, cable splicing to provide a fully operable detector loop, testing and all trench and backfill shall be included in this item.

Basis of Payment.

Detector Loop Replacement shall be paid for at the contract unit price per foot (meter) of DETECTOR LOOP REPLACEMENT.

MAGNETIC DETECTOR REMOVAL AND DETECTOR LOOP INSTALLATION.

This work shall consist of the removal of existing magnetic detectors, magnetic detector lead-in cable and magnetic detection amplifiers and related control equipment wiring, installation of detector lead-in cable, detector loops, detector amplifiers and related equipment wiring. The detector loop, cable, and amplifier shall be installed according to the applicable portions of the "Standard Specifications" and the applicable portions of the Special Provision for "Detector Loop Replacement." All drilling of handholes, furnishing and installing CNC, cable splicing, trench and backfill, removal of equipment, and removing cable from conduit shall be included in this item.

Basis of Payment.

Magnetic Detector Removal and Detector Loop Installation shall be paid for at the contract unit price per foot (meter) for DETECTOR LOOP, TYPE I, per each for INDUCTIVE LOOP DETECTOR, and foot (meter) for ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR.

**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.

CLEANING EXISTING DRAINAGE STRUCTURES

Effective: September 30, 1985
Revised: December 1, 2011

All existing storm sewers, pipe culverts, manholes, catch basins and inlets shall be considered as drainage structures insofar as the interpretation of this Special Provision is concerned. When specified for payment, the location of drainage structures to be cleaned will be shown on the plans.

All existing drainage structures which are to be adjusted or reconstructed shall be cleaned in accordance with Article 602.15 of the Standard Specifications. This work will be paid for in accordance with Article 602.16 of the Standard Specifications.

All other existing drainage structures which are specified to be cleaned on the plans will be cleaned according to Article 602.15 of the Standard Specifications.

BASIS OF PAYMENT. This work will be paid for at the contract unit price each for DRAINAGE STRUCTURES TO BE CLEANED, and at the contract unit price per foot (meter) for STORM SEWERS TO BE CLEANED, of the diameter specified.

2110800 COMPOST FURNISH AND PLACE

Scope: This work shall consist of furnishing, transporting, and spreading compost to the depth specified in areas as shown in the plans or as directed by the Engineer.

Material: Add the following to Article 1081.05 (b):

Compost shall have no metal shards or glass present. Any plastic or other man-made material shall be no larger than 4 mm and screened out to be less than 1.0% of the total dry weight. A copy of the compost test results complying with IEPA standards for General Use Compost and certification of IEPA registration must be provided to the Engineer with each shipment load of compost.

Method: All areas to receive compost shall be graded, smoothed and finished uniformly to the satisfaction of the Engineer with equipment approved by the Engineer prior to placement.

The contractor shall remove all litter (including plastic bags, bottles, rocks, etc.) and plant debris before placing compost. Disposal of materials shall be done in accordance with Article 202.03.

All irregularities or depressions in the surface due to weathering or other causes shall be filled or smoothed out before the compost is placed.

The Engineer will verify that the proper compost depth has been applied. After verification of proper depth, the Contractor shall completely incorporate the placed compost into the existing surface to a minimum depth of 6 in.(150 mm) below finished grade by disking or tilling.

Finishing: The surface of the compost shall be free from clods, stones, sticks and debris and shall be left smooth and level to maintain a uniform surface and appearance.

After the compost placement, all areas shall be immediately cleared of equipment, debris, and excess material. Surplus or waste material shall be disposed of by the Contractor according to Article 202.03.

Method of Measurement: Compost will be measured in place to the depth specified in square yards (square meters). Areas not meeting the depth specified shall not be measured for payment.

Basis of Payment: This work will be paid for at the contract unit price per square yard (square meter) for COMPOST FURNISH AND PLACE, of the thickness specified. Payment shall include all costs for materials, equipment and labor required to complete the work specified herein, including the cost of removing and disposing of any debris.

56500600 DOMESTIC WATER SERVICE BOXES TO BE ADJUSTED

DESCRIPTION.

This work shall consist of adjusting domestic water service boxes to match the proposed finished grade as directed by the ENGINEER, in accordance with Section 565 of the STANDARD SPECIFICATIONS.

Top sections, extensions and/or caps compatible with the existing box, may be required to adjust the box to the final grade. Replacement of damaged caps shall be included in the cost of this item.

For boxes which are located in sidewalks or driveways constructed as part of this improvement, the CONTRACTOR is responsible for confirming all caps and bolts can be opened after the concrete or asphalt has been placed. The CONTRACTOR shall confirm each roundway is keyable. If the CONTRACTOR cannot key the roundway, he shall notify the ENGINEER. After the work has been completed, the CONTRACTOR shall open each box in the presence of the ENGINEER.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT.

This work shall be paid for at the contract unit price each for DOMESTIC WATER SERVICE BOXES TO BE ADJUSTED.

6064100 COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 (MODIFIED)

DESCRIPTION.

This work shall consist of the construction of new combination concrete curb and gutter (curb height varies 3"-9") including all necessary pavement saw cut, adjacent to curb pavement removal, excavation and embankment as shown in the detail on the plans and in accordance with Sections 606, 202 and 205 of the Standard Specifications and as specified herein.

CONSTRUCTION REQUIREMENTS.

In addition to the requirements of Section 606 of the Standard Specifications the Contractor shall excavate all material necessary to build the proposed curb and gutter and proposed subbase in accordance with Section 202 of the Standard Specifications. Excavated material will not be permitted to be stockpiled behind the curb. Backfill behind the proposed back of curb shall be in accordance with Section 205 of the Standard Specifications. For streets with full depth asphalt replacement, any existing pavement removal adjacent to the new curb and gutter shall be replaced with suitable stone backfill.

For each street, contractor shall start curb installation at one end and continue on a linear path to the terminus of that side. At no time shall the contractor start in the middle of a street or jump to another portion of that side.

Proposed concrete curb and gutter shall be transitioned to existing curb and gutter over a length of 6 feet.

Expansion joints shall be placed at a maximum spacing of 60 feet.

Contraction joints shall be placed at a maximum spacing of 20 feet.

All framing shall be set to final grade of the pour. No angle irons will be allowed. No watering cans shall be allowed on site.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT.

Combination concrete curb and gutter and all excavation, and backfill necessary to construct the work as shown on the plans and as specified herein shall be measured and paid for at the contract unit price per foot for COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 (MODIFIED).

89502380 – REMOVE EXISTING HANDHOLE

DESCRIPTION.

This work shall consist of removing and disposing of a poured in place concrete handhole as shown on the plans or directed by the Engineer.

CONSTRUCTION REQUIREMENTS.

All work shall be performed in accordance with Section 895 of the Standard Specifications.

The entire handhole structure and cover shall be completely removed and disposed of, and backfilled with approved material, and the surface reconstructed to match the adjoining area. If the handhole is located in the sidewalk area, the entire sidewalk square or squares where the handhole is located shall be replaced with new sidewalk. Sidewalk removal and replacement will be paid for separately.

MEASUREMENT AND PAYMENT

The work shall be paid for at the contract unit price each for REMOVE EXISTING HANDHOLE, which price shall be payment in full for all material, labor and any other items required to complete the work.

Z0003850 BENCHES

DESCRIPTION. This work shall consist of furnishing and installing backless metal BENCHES at the locations specified in the Contract plans or as directed by the engineer.

GENERAL REQUIREMENTS. Each bench will be placed at the location indicated in the plans. The locations will be field marked and verified for approval by the Engineer.

ASSEMBLY. Anchor bolts must be located with assembled bench in place. Benches must be mounted as detailed in the plans. Anchor bolts must be drilled and grouted into the concrete base for pavers, concrete wearing surface or concrete sidewalk.

MATERIALS. Materials shall be as specified in the plans and shall be “Black Powder coat” in color, Standard 6 Foot Length Backless Bench by the following manufacturer:
Victor Stanley Inc., Dunkirk, MD

Materials shall be City Sites Series CR-14 by Victor Stanley
FINISH – Finish shall be steel.

SUBMITTALS. Submit manufacturer’s technical data for the manufactured product, including certification that each product complies with the specified requirements. In accordance with the Standard Specifications, the Contractor must submit shop drawings for the Engineer’s approval showing the bench completely assembled including shop drawings of its component parts.

BASIS OF PAYMENT. The work under this item will be paid for at the contract unit price per each **BENCHES**, which price will include labor, anchor bolts and bolt installation, equipment, materials and incidental work necessary to complete the installation as specified.

Z0017400 DRAINAGE AND UTILITY STRUCTURES TO BE ADJUSTED

DESCRIPTION.

This work shall consist of adjusting existing traffic signal handholes, utility handholes, catch basins, manholes, valve vaults, and inlets with their existing frame and grate in accordance with Section 602 of the Standard Specifications and as specified herein.

Each structure adjustment shall be limited to two adjustment rings. The final ring and rings under 2" on all drainage adjustments shall be rubber adjustment rings. The CONTRACTOR shall place a continuous strip 3/8" thick of polyurethane sealer/adhesive between the PCC structure or PCC ring and the bottom of the rubber ring. The CONTRACTOR shall also place a continuous strip 3/8" thick of polyurethane sealer/adhesive between the top of the rubber ring and the bottom of the frame.

If the Contractor causes debris to enter the existing sewers, that entire section of sewer between manholes must at once be thoroughly cleaned and rodded. All sewer and water structures so contaminated must at once be thoroughly cleaned.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT.

This work will be measured and paid for at the contract unit price per each for DRAINAGE AND UTILITY STRUCTURES TO BE ADJUSTED. The word STRUCTURE shall be understood to mean catch basin, manhole, valve vault, water valve or inlet as the case may be.

Z0033028 MAINTENANCE OF LIGHTING SYSTEMS

Replace Article 801.11 and 801.12 of the Standard Specifications with the following:

Effective the date the Contractor's activities (electrical or otherwise) at the job site begin, the Contractor shall be responsible for the proper operation and maintenance of all existing and proposed lighting systems which are part of, or which may be affected by the work until final acceptance or as otherwise determined by the Engineer.

Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall initiate a request for a maintenance transfer and preconstruction inspection,

as specified elsewhere herein, to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any lighting systems which may be affected by the work. The request for the maintenance preconstruction inspection shall be made no less than seven (7) calendar days prior to the desired inspection date.

Existing lighting systems, when depicted on the plans, are intended only to indicate the general equipment installation of the systems involved and shall not be construed as an exact representation of the field conditions. It remains the Contractor's responsibility to visit the site to confirm and ascertain the exact condition of the electrical equipment and systems to be maintained.

Maintenance of Existing Lighting Systems

Existing lighting systems. Existing lighting systems shall be defined as any lighting system or part of a lighting system in service at the time of contract Letting. The contract drawings indicate the general extent of any existing lighting, but whether indicated or not, it remains the Contractor's responsibility to ascertain the extent of effort required for compliance with these specifications and failure to do so will not be justification for extra payment or reduced responsibilities.

Existing Lighting Systems Requiring Maintenance.

City of Park Ridge – Northwest Highway and Touhy Avenue Lighting System – Full Maintenance:

- Lighting Controller in parking lot between Northwest Highway, Touhy Avenue and Washington Street.
- Lighting along Northwest Highway (Touhy Ave. to Washington St.) and along Touhy Avenue (Northwest Hwy. to Washington).

Extent of Maintenance.

Partial Maintenance. Unless otherwise indicated, if the number of circuits affected by the contract is equal to or less than 40% of the total number of circuits in a given controller and the controller is not part of the contract work, the Contractor needs only to maintain the affected circuits. The affected circuits shall be isolated by means of in-line waterproof fuse holders as specified elsewhere and as approved by the Engineer.

Full Maintenance. If the number of circuits affected by the contract is greater than 40% of the total number of circuits in a given controller, or if the controller is modified in any way under the contract work, the Contractor shall maintain the entire controller and all associated circuits.

be re-set, the contractor shall replace the equipment in kind and the cost of the equipment shall be included in the cost of this pay item and shall not be paid for separately.

Maintenance of Proposed Lighting Systems

Proposed Lighting Systems. Proposed lighting systems shall be defined as any lighting system or part of a lighting system, temporary or permanent, which is to be constructed under this contract regardless of the project limits indicated in the plans.

The Contractor shall be fully responsible for maintenance of all items installed under this contract. Maintenance shall include, but not be limited to, any equipment failures or malfunctions as well as equipment damage either by the motoring public, Contractor operations, vandalism, or other means. The potential cost of replacing or repairing any malfunctioning, damaged, or vandalized equipment shall be included in the bid price of this item and will not be paid for separately.

Lighting System Maintenance Operations

The Contractor's responsibility shall include all applicable responsibilities of the Electrical Maintenance Contract, State of Illinois, Department of Transportation, Division of Highways, District One. These responsibilities shall include the maintenance of lighting units (including sign lighting), cable runs and lighting controls. In the case of a pole knockdown or sign light damage, the Contractor shall promptly clear the lighting unit and circuit discontinuity and restore the system to service. The equipment shall then be re-set by the contractor within the time limits specified herein.

If the existing equipment is damaged by normal vehicular traffic, not contractor operations, is beyond repair and cannot be re-set, the contractor shall replace the equipment in kind with payment made for such equipment under Article 109.04. If the equipment damaged by any construction operations, not normal vehicular traffic, is beyond repair and cannot be re-set, the contractor shall replace the equipment in kind and the cost of the equipment shall be included in the cost of this pay item and shall not be paid for separately.

Responsibilities shall also include weekly night-time patrol of the lighting system, with patrol reports filed immediately with the Engineer and with deficiencies corrected within 24 hours of the patrol. Patrol reports shall be presented on standard forms as designated by the Engineer. Uncorrected deficiencies may be designated by the Engineer as necessitating emergency repairs as described elsewhere herein.

The following chart lists the maximum response, service restoration, and permanent repair time the Contractor will be allowed to perform corrective action on specific lighting system equipment.

INCIDENT OR PROBLEM	SERVICE RESPONSE TIME	SERVICE RESTORATION TIME	PERMANENT REPAIR TIME
Control cabinet out	1 hour	4 hours	7 Calendar

			days
Hanging mast arm	1 hour to clear	na	7 Calendar days
Radio problem	1 hour	4 hours	7 Calendar days
Motorist caused damage or leaning light pole 10 degrees or more	1 hour to clear	4 hours	7 Calendar days
Circuit out – Needs to reset breaker	1 hour	4 hours	na
Circuit out – Cable trouble	1 hour	24 hours	21 Calendar days
Outage of 3 or more successive lights	1 hour	4 hours	na
Outage of 75% of lights on one tower	1 hour	4 hours	na
Outage of light nearest RR crossing approach, Islands and gores	1 hour	4 hours	na
Outage (single or multiple) found on night outage survey or reported to EMC	na	na	7 Calendar days
Navigation light outage	na	na	24 hours

- **Service Response Time** -- amount of time from the initial notification to the Contractor until a patrolman physically arrives at the location.
- **Service Restoration Time** – amount of time from the initial notification to the Contractor until the time the system is fully operational again (In cases of motorist caused damage the undamaged portions of the system are operational.)
- **Permanent Repair Time** – amount of time from initial notification to the Contractor until the time permanent repairs are made if the Contractor was required to make temporary repairs to meet the service restoration requirement.

Failure to provide this service will result in liquidated damages of \$500 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the City of Park Ridge. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the City of Park Ridge within one month after the incident will result in additional liquidated damages of \$500 per month per occurrence. Unpaid bills will be deducted from any monies owed to the Contractor. Repeated failures and/or a gross failure of maintenance shall result in City of Park Ridge is being directed to correct all deficiencies and the resulting costs deducted from any monies owed the contractor.

Damage caused by the Contractor’s operations shall be repaired at no additional cost to the Contract.

Operation of Lighting

The lighting shall be operational every night, dusk to dawn. Duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously. Lighting systems shall not be kept in operation during long daytime periods.

Method of Measurement

The contractor shall demonstrate to the satisfaction of the Engineer that the lighting system is fully operational prior to submitting a pay request. Failure to do so will be grounds for denying the pay request. Months in which the lighting systems are not maintained and not operational will not be paid. Payment shall not be made retroactively for months in which lighting systems were not operational.

Basis of Payment. Maintenance of lighting systems shall be paid for at the contract unit price per calendar month for **MAINTENANCE OF LIGHTING SYSTEM.**

Z0049600 REFUSE CONTAINER TOP AND BASE

DESCRIPTION.

This work shall consist of furnishing and installing a new TRASH RECEPTACLE at the locations specified in the Contract plans or as directed by the Engineer.

GENERAL REQUIREMENTS.

Each trash receptacle will be placed at the location indicated in the plans. The locations will be field marked and verified for approval by the Engineer.

ASSEMBLY.

The anchor bolt must be drilled and grouted into the sidewalk surface only after the Refuse Container location has been finalized.

MATERIALS.

Materials must be as specified in the plans and must be "Black Powder coat" in color, extruded aluminum, 29-1/4" in diameter and 37-1/4" high by the following manufacturers:

Landscape Forms, Kalamazoo, MI,

Materials shall be Plainwell Trash Can by Landscape Forms,

FINISH – Finish shall be Aluminum.

SUBMITTALS.

Submit manufacturer's technical data for each manufactured product, including certification that each product complies with the specified requirements. Submit shop drawings showing complete information for fabrication. Include anchoring detail.

BASIS OF PAYMENT.

The work under this item will be paid for at the contract unit price per each as shown in the Schedule of Unit Prices for REFUSE CONTAINER TOP AND BASE, which price will include labor, anchor bolts and bolt installation, equipment, materials and incidental work necessary to complete the installation as specified.

Z0075496 CONCRETE RETAINING WALL REMOVAL

DESCRIPTION.

This work shall consist of the removal and satisfactory disposal offsite of the existing precast modular retaining wall at location as shown on the Plans.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT.

This work shall be paid for at the contract unit price per linear foot for CONCRETE RETAINING WALL REMOVAL for which price shall include all cost for labor, materials, equipment, and incidentals necessary to perform the work.

K0012974 PERENNIAL PLANTS, ORNAMENTAL TYPE, 3" POT

DESCRIPTION.

This work shall consist of furnishing and placing PERENNIAL PLANTS, 3" POT as shown on the Contract plans. This work shall be done in accordance with Section 254 of the Standard Specifications and as specified herein.

GENERAL REQUIREMENTS. Perennial, 3" Pot shall be placed at the location as specified in the Contract plans.

MATERIALS. Materials shall be as specified in the plans and shall be Perennial, 3" Pot.

BASIS OF PAYMENT. The work under this item will be paid for at the contract unit price per unit (1 unit equal to 100 plants) as shown in the Schedule of Unit Prices for PERENNIAL PLANTS, 3" POT, which price will include labor, installation, equipment, materials and incidental work necessary to complete the installation as specified.

K0012975 PERENNIAL PLANTS, ORNAMENTAL TYPE, 4" POT

DESCRIPTION.

This work shall consist of furnishing and placing PERENNIAL PLANTS, 4" POT as shown on the Contract plans. This work shall be done in accordance with Section 254 of the Standard Specifications and as specified herein.

GENERAL REQUIREMENTS. Perennial, 4" Pot shall be placed at the location as specified in the Contract plans.

MATERIALS. Materials shall be as specified in the plans and shall be Perennial, 4" Pot.

BASIS OF PAYMENT. The work under this item will be paid for at the contract unit price per unit (1 unit equal to 100 plants) as shown in the Schedule of Unit Prices for PERENNIAL PLANTS, 4" POT, which price will include labor, installation, equipment, materials and incidental work necessary to complete the installation as specified.

K0012990 PERENIAL PLANTS, ORNAMENTAL TYPE, GALLON POT

DESCRIPTION.

This work shall consist of furnishing and placing PERENIAL PLANTS, GALLON POT as shown on the Contract plans. This work shall be done in accordance with Section 254 of the Standard Specifications and as specified herein.

GENERAL REQUIREMENTS. Perennials (1 gallon pot) shall be placed at the location as specified in the Contract plans.

MATERIALS. Materials shall be as specified in the plans and shall be Perennial, Gallon Pot.

BASIS OF PAYMENT. The work under this item will be paid for at the contract unit price per unit as shown in the Schedule of Unit Prices for PERENIAL PLANTS, ORNAMENTAL TYPE, GALLON POT, which price will include labor, installation, equipment, materials and incidental work necessary to complete the installation as specified.

K002683 SHRUB REMOVAL

DESCRIPTION

This work shall consist of cutting, grubbing, removing and disposing of shrubs and roots.

GENERAL

The work shall be performed according to Article 201.08 of the "Standard Specifications. The removed shrubs shall be disposed of according to Article 202.03 of the "Standard Specification".

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

This work shall be paid for at the contract unit price per each for SHRUB REMOVAL for which price shall include all cost for labor, materials, equipment, and incidentals necessary to perform the work.

K1001988 – IRRIGATION SYSTEM SPECIAL

1. GENERAL

1.1 SUMMARY

- A. This work shall consist of furnishing and installing landscape irrigation as shown on the plans or as directed by the Owner. This work shall include all material and labor required to install a complete functioning, automatically controlled irrigation system, including but not limited to piping and control valve wiring connections to existing system, sprinkler piping/sleeves, electric/manual valves, valve boxes, wiring, tree root watering systems, drip tubing, etc.

1.2 RELATED DOCUMENTS

- A. Drawings
- B. IDOT Standard Specifications for Road and Bridge Construction, Latest Edition.

1.3 DEFINITIONS

- A. Lateral Piping: Downstream from control valves to sprinklers and specialties. Piping is under pressure during flow.
- B. Irrigation Main Piping: Downstream from point of connection to service line piping including control valves. Piping is under system pump pressure.

- C. Supply Header: PVC pipe downstream of remote control valve with multiple connections to driplines.
- D. Flush Header: PVC pipe with multiple connections to driplines that forms the end of a drip zone.
- E. Drip Irrigation: Low-volume water delivery system utilizing in-line drip tubing, pressure-compensating emitters, low-volume sprays and bubblers or any combination of these products.
- F. The following are industry abbreviations for plastic materials:
 - ABS: Acrylonitrile-butadiene-styrene plastic.
 - HDPE: High density polyethylene.
 - FRP: Fiberglass-reinforced plastic.
 - PA: Polyamide (nylon) plastic.
 - PE: Polyethylene plastic.
 - PP: Polypropylene plastic.
 - PTFE: Polytetrafluoroethylene plastic.
 - PVC: Polyvinyl chloride plastic.
 - SDR: Standard dimension ratio.
 - TFE: Tetrafluoroethylene plastic.

1.4 SYSTEM REQUIREMENTS

- A. Location of Sprinklers and Specialties: Design location is approximate. Minor adjustments shall be made as necessary to avoid plantings and obstructions such as signs, light poles, utilities, planters and tree grates.
- B. Minimum Working Pressures: The following are minimum pressure requirements for piping, valves, and specialties, unless otherwise indicated:
 - 1. Irrigation Main Piping: 50 psig
 - 2. Lateral Piping: 30 psig

Minor adjustments shall be made as necessary due to existing watermain pressures and losses through proposed irrigation equipment.

1.5 SUBMITTALS

- A. Product Data: Include pressure ratings, rated capacities, and settings of selected models for the following:
 - Shut-off valves.
 - Remote Control valves.
 - Quick-couple valves.
 - Valve boxes.
 - Composite concrete handholes.

- Spray head equipment and accessories.
 - Dripline equipment and accessories.
 - Controllers. Include wiring diagrams.
 - Control wiring and conduit. Include splice kits.
 - Irrigation pipe and fittings.
- B. Coordination Drawings: Show piping and major system components. Indicate interface and spatial relationship between piping, system components, adjacent utilities, and proximate structures.
- C. Field quality-control test reports.
- 1. Pressure and flow test performed at point(s) of connection.
- D. Operation and Maintenance Data: For irrigation systems, to include in operation and maintenance manuals. Include the following:
- 1. Contractor information sheet (including Contractor's name, address, numbers and point of contact).
 - 2. Duration of warranty period.
 - 3. Pressure line tests.
 - 4. Controller settings and charts.
 - 5. Equipment list, including manufacturer and model information for
 - Service connection equipment.
 - Controller enclosures and equipment.
 - Automatic-control valves.
 - Manual isolation valves.
 - Spray heads and drip equipment.
 - Controllers, RPZ and enclosure.
 - Valve boxes.
 - 6. Spare parts list.
 - 7. Startup procedures.
 - 8. Winterization procedures.
 - 9. Record drawings.

1.6 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Installer shall have five (5) years minimum experience on comparable irrigation system projects.
- C. Installation of equipment shall be done in accordance with the National Electric Code, Municipal/Plumbing Code, and manufacturer recommendations.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver semi-rigid piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.
- B. Deliver flexible piping in factory-assembled rolls. Maintain protective wrap or packaging through shipping, storage and handling.
- C. Store plastic piping protected from direct sunlight. Support to prevent sagging and bending.

1.8 PROJECT CONDITIONS

- A. Locations and elevations of existing utilities shall be field verified prior to beginning construction. The Contractor shall notify the Engineer of any conflicts with the proposed irrigation design.
- B. The Contractor shall be responsible for repair any damages to existing identified/marked utilities.
- C. Irrigation Contractor shall coordinate with other trades to ensure pre-construction protective measures have been taken to maintain existing system operation and integrity.
- D. The irrigation system was designed utilizing the working pressure(s) shown on the Drawings. In the event the minimum pressures required on the Drawings cannot be provided, Irrigation Contractor shall notify Engineer immediately upon discovery of the discrepancy.

1.9 COORDINATION

- A. General: Coordination is required between several trades to execute the design as shown on the Drawings.

The proposed irrigation system shall be supplied from an existing pump station located on the corner of Prospect Ave. and Summit Ave. and shall be installed within the project limits on both sides of Northwest Highway from Prospect Avenue to Ridge Terrace, as shown on the plans.

Irrigation Contractor shall coordinate all points of connection and scheduling with the relevant trades.

Existing irrigation enclosure and controller shall be use as shown on the Drawings. Irrigation Contractor shall ensure that all requirements for controller wire connections (both power and control) have been coordinated with the relevant trades.

2. PRODUCTS

2.1 PIPES, TUBES, AND FITTINGS

A. Refer to Part 3 "Piping Applications" Article for applications of pipe, fitting, and joining materials.

B. Hard Copper Tube: Type K (ASTM B 88M and B-251) water piping.

1. Copper Pressure Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought- copper, solder-joint fittings. Furnish wrought-copper fittings if indicated.
2. Bronze Flanges: ASME B16.24, Class 150, with solder-joint end.
3. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces and solder-joint or threaded ends.

C. PVC, Pressure-Rated Pipe:

1. Circuit Piping (all sizes): ASTM D 2241, PVC 1120 compound, SDR 21.
2. Mainline Piping, 3" and smaller: ASTM D 2241, PVC 1120 compound, SDR 21.
3. Sleeves (all sizes): ASTM D 1785, PVC 1120 compound, Schedule 40

D. PVC Socket fittings, Schedule 40, ASTM D 2467.

2.2 JOINING MATERIALS

A. Solvent Cement (PVC Piping):

1. Primer and Solvent conforming to ASTM D2564-02

2.3 BALL VALVES

A. General: Cast brass quarter turn ball valve with handle and threaded ends conforming to ANSI Standard B 2.1. Size shall match pipeline.

2.4 QUICK-COUPLE VALVES

A. General: Factory-fabricated, brass, two-piece assembly. Include coupler water-seal valve; removable upper body with spring-loaded or weighted, locking rubber-covered cap; hose swivel with ASME B1.20.7, 3/4-11.5NH threads for garden hose on outlet; and operating key.

1. Locking-Top Option: Vandal-resistant, locking feature. Include two matching keys.

2.5 ROUND VALVE BOXES

- A. Application: Flush valves, Quick couple valves, and air/vacuum valves
- B. Box and cover, with open bottom and openings for piping; designed for installing flush with grade. Include size as required for valves and service.

Shape: Round

Sidewall Material: Polymer concrete

Cover Material: Polymer concrete, green in color in landscape; grey/concrete color in concrete; or standard color to match brick. Cover shall be bolt down or have locking mechanism.

- B. Drainage Backfill: Cleaned gravel or crushed stone, graded from 3/4-inch minimum to 1-inch maximum.

2.6 COMPOSITE CONCRETE HANDHOLES

- A. Application: Manual isolation valve, automatic control valve and drip zone control valve.
- B. Box and cover, with open bottom and openings for piping; designed for installing flush with grade. Include size as required for valves and service.

Shape: Rectangular

Sidewall Material: Polymer concrete

Cover Material: Polymer concrete, green in color in landscape; grey/concrete color in concrete; or standard color to match brick. Cover shall be bolted, gasketed and provided with an irrigation logo.

Ratings: Minimum Tier 15

- C. Drainage Backfill: Cleaned gravel or crushed stone, graded from 3/4-inch minimum to 1-inch maximum.

2.7 SWING JOINT ASSEMBLIES

- A. Swing joint assemblies shall be manufactured of rigid PVC, Type 1, Cell classification 12454-B per ASTM D1784 with NPT threads and pipe sockets per ASTM D2464 and D2466, respectively. Each rotating joint shall be sealed with Buna rubber O-ring, installed pre-compressed in a sealing groove free of parting lines to prevent leakage. Modified stub ACME threads shall have specially engineered diameters and clearances to allow full circle movement in 360 degrees.

2.8 DRIPLINE EQUIPMENT AND ACCESSORIES

- A. Drip Control Zone Kit:

1. Factory assembled kit for controlling low-flow irrigation zones comprised of the following components:
 - a) Low-flow remote control valve with external bleed and internal bleed for manual operation.
 - b) Pressure regulator with plastic body capable of maintaining outlet pressure between 20-120 psi.
 - c) Filtration provided by inline Y filter of heavy-duty glass-filled nylon material with minimum 150-mesh filter screen (factory-installed).

B. Landscape Dripline Tubing

1. Flexible PE tubing with pre-installed pressure-compensating emitters with dual outlet ports, spaced 12" on-center. Flow rate shall be 0.9 to 1.0 gallons-per-hour.

C. Dripline Extension Tubing

1. Flexible PE tubing, ½-inch minimum (ID controlled). Fittings shall be lock-type, UV-resistant with external locking ring.

D. Air/Vacuum Relief Valve

1. Air/vacuum relief valve designed to be installed on dripline tubing, and as shown on plans.

E. Flush Valve

1. Flush valve shall consist of PVC ball valve, with adapters, and dripline extension tubing located in a round valve box.

F. Operation Indicator

- Pop-up indicator, with yellow stem, that attaches to PVC or dripline tubing, identifying low water pressure in pipe/dripline tubing. The nozzle shall be removeable for winterization.

2.9 TREE ROOT WATERING SYSTEMS

- A. Preassembled, tree root water supply device with swing joint, built in check valve, adjustable flow rate, and filter fabric sleeve, as shown on the plans

2.10 AUTOMATIC-CONTROL SYSTEM

A. General:

1. Existing irrigation controller is a Hunter model ACC-99DSS capable of multiple stations.

2. Contractor shall provide appropriate modifications to existing controller to accept approximately 16 new two wire decoders.
3. Contractor shall run new two wire runs from new irrigation system and connect to existing controller and provide all required programming as needed.

2.11 CONTROL WIRE

- A. Two conductor, or multi-conductor, solid-copper twisted pair cable with overall jacket of polyvinyl chloride insulation, UL listed and rated for exterior, underground installations. Control wire shall be installed in 1" Schedule 40 PVC conduit.
- B. Control wire shall be a minimum of a no. 14 AWG, color coded as follows:
 - a) Control Cable – Red or black
 - b) Common Cable - White
 - c) Ground Cable – Green

2.12 WIRE SPLICES

Wire splices shall be waterproof, compression type, as shown on the plans.

2.13 MISCELLANEOUS SPRINKLER EQUIPMENT

Valve Identification Tags: Pre-printed plastic tags with minimum text height of 1", capable of being attached to valve stem or valve wire within valve box.

3. EXECUTION

3.1 GENERAL

- A. Install piping and electric wiring in sleeves under roadways and driveways as shown on the plans.
 1. Coordinate sleeve installation to occur prior to pavement construction
 2. Install piping sleeves by directional bore method under existing paving if possible. Where this is not feasible, cutting and patching operations will conform to relevant Division One requirements.
 3. Sleeves shall extend a minimum of 24" beyond the pavement.
- B. Provide minimum cover over top of underground piping according to the following:
 1. Irrigation Main Piping: Minimum depth of 24 inches below finished grade
 2. Lateral Piping (including drip headers): 18 inches

3. Sleeves: 24 inches

3.2 PREPARATION

- A. Stake layout of system in the field, utilizing appropriate materials and notify Engineer and Landscape Architect to obtain approval prior to beginning installation activities.
 - 1. Notify the Engineer and Landscape Architect 48 hours prior to desired on-site review. Landscape Architect will provide review within the 48-hour time period.

3.3 POINT OF CONNECTION

Construct connection to stubbed supply lines (provided by others) using appropriate fittings for metallic to plastic piping.

3.4 PIPING APPLICATIONS

- A. Install components having pressure rating equal to or greater than system operating pressure.
- B. Underground Irrigation Main Piping: Use the following piping materials for each size range:
 - NPS 3" and Smaller: SDR 21, PVC, pressure-rated pipe.
- C. Lateral Piping: Use the following piping materials for each size range:
 - NPS 2" and Smaller: SDR 21, PVC, pressure-rated pipe; Schedule 40, PVC socket fittings; and solvent-cemented joints.
- D. Swing Assemblies: Install appropriate swing assemblies as required by the Drawings and Part 2 above.
- E. Sleeves: Schedule 40, PVC pipe and socket fittings; and solvent-cemented joints.
- F. Transition Fittings: Use transition fittings for plastic-to-metal pipe connections according to the following:
 - 1. Couplings:
 - a) Underground Piping NPS 1-1/2" and Smaller: Manufactured fitting or coupling.
 - b) Underground Piping NPS 2" and Larger: AWWA transition coupling.
 - 2. Fittings:
 - a) Aboveground Piping: Plastic-to-metal transition fittings.

- b) Underground Piping: Union with plastic end of same material as plastic piping.

3.5 VALVE APPLICATIONS

A. Remote Control Valves:

NPS 2" and Smaller: Plastic or bronze automatic control valve.

B. Shut-off Valves:

NPS 2" and Smaller: Brass NRS Ball Valve

3.6 PIPING INSTALLATION

- A. Location and Arrangement: Drawings indicate location and arrangement of piping systems. Install piping as indicated unless deviations are approved on Coordination Drawings.
- B. Install piping free of sags and bends.
- C. Install groups of pipes parallel to each other and spaced to permit valve servicing.
- D. Install fittings for changes in direction and branch connections.
- E. Install underground thermoplastic piping according to ASTM D 2774
- F. Install PVC piping in dry weather when temperature is above 40 deg F 5 deg C. Allow joints to cure at least 24 hours at temperatures above 40 deg F 5 deg C before testing unless otherwise recommended by manufacturer.

3.7 JOINT CONSTRUCTION

Construct solvent-weld joints per ASTM D2855.

3.8 VALVE INSTALLATION

- A. Control Valves: Install in rectangular composite concrete handhole per the Plans.
- B. Quick Couple Valves: Install in round valve box per the Plans.
- C. Shut-off Valves: Install in rectangular composite concrete handhole per the Plans.

3.9 DRIPLINE INSTALLATION

- A. Following final grading or fill operations, install dripline as indicated on the drawings. Parallel lines shall be spaced per the plans with the emitters 'staggered' to provide even coverage of the irrigated area.
- B. Install stainless steel stakes at 36-inch intervals to secure the dripline to the finished grade.
- C. Construct supply and flush headers of PVC pipe as shown on the plans and make connection to dripline tubing with appropriate compression fittings.
- D. Install Air/Vacuum relief kit at the highest point of the dripline zone as indicated on the plans.
- E. Install flush valves at the lowest point of the dripline zone as indicated on the plans.
- F. Install operation indicators after the drip zone kits.

3.10 MODIFY EXISTING IRRIGATION CONTROLLER

- A. Modify/expand controller as indicated on plans.
- B. Install control wire conduits in same trench as irrigation piping as indicated on plans. Provide conductors of size not smaller than recommended by controller manufacturer and as indicated on plans. Voltage drop shall be taken into consideration based valve requirements and distance from the controller. Install cable in separate conduit sleeve under paved areas if irrigation piping is installed in sleeve.
- C. Pull control cables through provided conduit to controller location and make final connections per the manufacturer's recommendations.

3.11 CONNECTIONS

- A. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Make all electrical connections in conformance with local code requirements. Provide waterproof connectors for all underground electrical connections.
- C. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3.12 LABELING AND IDENTIFYING

Provide valve tags at each remote control valve as indicated on the plans.

3.13 FIELD QUALITY CONTROL

A. Perform the following field tests and inspections and prepare test reports:

1. Hydrostatic Test: After installation, charge system with pressurized air to 100 psi. System will be able to maintain pressure with no more than 5 psi loss in one hour. Each valve shall be opened and closed during test. Landscape Architect must be in attendance during test. Provide a minimum of 48 hours notice prior to scheduled test.
2. Operational Test: After electrical circuitry has been energized, operate controllers and automatic control valves to confirm proper system operation.
3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

B. Remove and replace faulty/malfunctioning system components and retest as specified above until the requirements are met.

3.14 STARTUP SERVICE

A. Verify that controllers are installed and connected according to the Contract Documents.

B. Verify that electrical wiring installation complies with manufacturer's submittal and installation requirements.

C. Complete startup checks according to manufacturer's written instructions.

3.15 ADJUSTING

A. Adjust settings of controllers and provide initial watering schedule per Owner's requirements.

B. Adjust automatic control valves to provide flow rate of rated operating pressure required for each sprinkler circuit.

C. Adjust valve boxes so they will be flush with finished grade.

3.16 CLEANING

Flush dirt and debris from piping before installing sprinklers and other devices.

3.17 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain controller and automatic control valves.
- B. Schedule a complete demonstration and system walk-through with the Owner and Landscape Architect. Final Payment will not be made until all items noted during demonstration and walk-through have been made by Contractor and verified by the Engineer as coordinated with Owner's staff.

3.18 DOCUMENTATION

- A. Provide a complete operations and maintenance manual to the Owner in a three-ring binder with the following items, separated by tabbed dividers for clear organization.
 - 1. Provide a label on the spine of the binder clearly stating "IRRIGATION SYSTEM OPERATION AND MAINTENANCE".
 - 2. Table of Contents
 - 3. Cut-sheets or manufacturer's data for all installed equipment including:
 - Remote Control Valves
 - Manual Isolation Valves
 - Spay Heads
 - Dripline Tubing
 - Dripline accessories (filters, valves, pressure regulators, etc.)
 - Controller
 - 4. Operations Data from manufacturers documenting diagnostic, repair and replacement procedures for all items "a" through "f" identified above.
 - 5. Complete description of spring start-up operations including:
 - Valve inspection
 - Controller programming guidelines for spring, summer and fall watering schedules. Guidelines shall be based on historical EVT rates for the Chicago area.
 - Controller battery replacement
 - Spray head inspection and replacement
 - Drip zone filter inspection and replacement
 - Drip zone back-flushing operations
 - 6. Complete description of fall shut-down/winterization operations including:
 - Blow-out procedures for irrigation system
 - Drain-down procedures for irrigation system
 - Controller shut-down procedures
- B. Provide an record drawing at the same size and scale as the design drawings on reproducible vellum or Mylar, and pdf files located on a zip drive, with the following information clearly shown:
 - Location of all sleeves with dimensions to site elements
 - Location of mainline and lateral pipe runs with sizes clearly indicated
 - Location of all valves

Location of controllers and rain/freeze sensor
Utilize standard industry symbols and notations for all equipment.

- C. Provide a copy of the Maintenance/Operations Manual and Record Drawing to the Engineer and Landscape Architect for review and approval prior to transmittal to the Owner.
1. Contractor shall make all revisions noted and required by the Landscape Architect prior to transmittal to the Owner.
 2. Contractor is required to demonstrate completion of all revisions, which may include providing a revised copy for additional review at the discretion of the Landscape Architect.

PART 4 - MEASUREMENT AND PAYMENT

The work shall be paid for at the contract lump sum price for IRRIGATION SYSTEM SPECIAL, which shall be payment in full for all work listed herein and as directed by the Owner's Representative.

X0300635 PLANTER

DESCRIPTION

This work shall consist of furnishing and installing moveable PLANTER at the locations specified in the Contract plans or as directed by the Engineer.

GENERAL REQUIREMENTS

Each planter will be placed at the location indicated in the plans. The locations will be field marked and verified for approval by the Engineer.

ASSEMBLY

Comply with manufacturer's written installation instructions, unless more stringent requirements are indicated. Provide filter fabric along bottom of Planter.

MATERIALS.

Materials shall be as specified in the plans and must be Natural Sand in color, Diameter: 36", Overall Height: 16", Base: 10" Planter by the following manufacturer:

Stonewear, Carson City, NV

Materials shall be Kalypso Planter Bowl Model KB3616 with Weep Holes by Stonewear.

Planting soil mix shall be in accordance with Special Provision PLANTING MIX FURNISH AND PLACE, 24"

FINISH – Natural Sand (NS30)

SUBMITTALS

Submit manufacturer’s technical data for the manufactured product, including certification that each product complies with the specified requirements. In accordance with the Standard Specifications, the Contractor must submit shop drawings for the Engineer’s approval showing the planter including shop drawings of its component parts.

BASIS OF PAYMENT

The work under this item will be paid for at the contract unit price per each PLANTER, which price will include labor, installation, equipment, materials, soil mix and incidental work necessary to complete the installation as specified.

X0321158 PARK BENCHES

DESCRIPTION. This work shall consist of furnishing and installing decorative metal PARK BENCH at the locations specified in the Contract plans or as directed by the engineer.

GENERAL REQUIREMENTS. Each bench will be placed at the location indicated in the plans. The locations will be field marked and verified for approval by the Engineer.

ASSEMBLY. Anchor bolts must be located with assembled bench in place. Park Benches must be mounted as detailed in the plans. Anchor bolts must be drilled and grouted into the concrete base for pavers, concrete wearing surface or concrete sidewalk.

MATERIALS. Materials shall be as specified in the plans and shall be “Black Powder Coat” in color, Standard 6 Foot Length by the following suggested manufacturer:

Landscape Forms, Kalamazoo, MI

Materials shall be Plainwell Bench by Landscape Forms

FINISH – Finish shall be Aluminum.

SUBMITTALS. Submit manufacturer’s technical data for the manufactured product, including certification that each product complies with the specified requirements. In accordance with the Standard Specifications, the Contractor must submit shop drawings for the Engineer’s approval showing the bench completely assembled including shop drawings of its component parts.

BASIS OF PAYMENT. The work under this item will be paid for at the contract unit price per each **PARK BENCHES**, which price will include labor, anchor bolts and bolt installation, equipment, materials and incidental work necessary to complete the installation as specified.

X0323117 LANDSCAPE GRAVEL

DESCRIPTION

This work shall consist of furnishing and installing 2" CRUSHED BLUESTONE CHIP at the locations specified in the Contract plans or as directed by the Engineer.

GENERAL REQUIREMENTS

Crush Bluestone Chip shall be placed at the location and at depth specified in the Contract plans.

INSTALLATION. Material shall be installed as specified on the Contract plans.

MATERIALS

Materials shall be as specified in the plans and must be "Bluestone" in color, Crushed Bluestone Chip, 1/4" to 1/2" diameter.

SUBMITTALS

Submit manufacturer's technical data for each manufactured product, including certification that each product complies with the specified requirements.

SAMPLES

Contractor shall submit product data and mix design from manufacturers to be approved by Engineer before construction.

BASIS OF PAYMENT

The work under this item will be paid for at the contract unit price per square yard as shown in the Schedule of Unit Prices for LANDSCAPE GRAVEL, which price will include labor, installation, equipment, materials and incidental work necessary to complete the installation as specified.

X0324058 OUTLET SPECIAL

DESCRIPTION.

This work shall consist of furnishing and installing a corded receptacle assembly to power to holiday lighting for trees located in grates where shown on the Contract Drawings.

All work related to the installation of the receptacle assembly shall be included (excavation, installation of cord, receptacle, extra cord set, backfill, disposal of surplus excavated material, etc.) The adjacent handhole will be paid for separately.

MATERIALS.

The receptacle shall be 15 amp 120 volt device with a black EPTR rubber body and water tight cap with an IP66 and IP67 rating. The device shall be mounted directly on a 3/C # 12 SOOW type cord with black jacketing. The cord shall be connected to the branch circuit in an adjacent handhole with a waterproof splice. All materials shall be in accordance with the contract plan drawings and requirements. The contractor shall furnish an additional 10ft cord set with matching watertight plug and receptacle installed on each end and deliver to the City.

CONSTRUCTION REQUIREMENTS.

All work shall be installed as shown on the contract plan drawings, N.E.C., and in accordance with Sections 801, 810, and 817 of the Standard Specifications.

The Contractor shall be responsible for coordinating all work.

MEASUREMENT AND PAYMENT.

The work shall be paid for at the contract unit price each for OUTLET SPECIAL, which price shall be payment in full for all material, labor and any other items required to complete the work.

X0324788 GRANITE PAVERS

DESCRIPTION

This work shall consist of unit pavers set on a prepared subgrade. This work shall also include all required sand setting bed, and paver joint material. This work shall be done at the locations specified in the Contract plans or as directed by the engineer.

QUALIFICATIONS

The Contractor shall provide written evidence that his firm or other entity proposed for the unit paving work has specific experience meeting the following criteria:

1. Experience installing unit pavers using sand setting beds.
2. Installed (within past three years) a minimum of 100,000 square feet per year for the past three years of unit paving using sand setting beds.
3. The same experienced supervisory personnel will be made available for this project.

If requested the paving firm shall submit a list of comparable projects setting forth description, square footage, location and knowledgeable references with addresses and phone numbers.

Any material substitutions must be submitted to the Engineer and Owner for review no later than ten (10) days prior to submitting bids. Submittals for consideration shall include full-sized samples and technical specifications. The Engineer will review the substitution proposal and, if approved, will issue written approval. Substitution submittals received after time outlined above will not be considered. Substitutions during construction will not be allowed.

MATERIALS

UNIT PAVERS shall be "Stoney Creek" Concrete Pavers as manufactured by Wausau Tile. The manufacturer must be enrolled in IDOT's QC/QA program. Color shall be Bluestone (SLT/SC3519).

UNIT PAVERS shall be the following sizes:

4. 100% (By Area): Nominal 18" x 18" x 2 3/4"

All pavers shall have a minimum compressive strength of 8,000 PSI and an absorption rate of less than 6% when tested, in accordance with ASTM C140 and C936.

Pavers shall have the following major components:

5. Cement: ASTM C-150 Portland Cement, Type 1
6. Aggregates: ASTM C33 (washed, graded sand and natural aggregates, no expanded shale or lightweight aggregates)
7. Additives: Calcium stearates should be added to mix to prevent efflorescence of pavers.
8. Coloring agents: Natural iron oxide pigments.

There shall be no variation in the depth of each paver. Pavers with extensive breakage of corners shall be rejected. Field pavers shall be laid as indicated on the plan and shall be an equal mixture of the standard color. Final colors shall be approved by Engineer as coordinated with Owner prior to work.

Sand for setting bed shall meet the requirements of Section 1003 of the Standard Specifications for FA-6. Thickness of setting bed shall vary to allow the surface of the pavers to be at the required finished grade. The paver joint material shall be dry sand conforming to ASTM C-144 with all particles passing the No. 16 sieve. Filter fabric materials and accessories shall be as indicated on the drawings. Final selection of filter fabric material shall be approved by the Engineer prior to installation.

CONSTRUCTION

Pavers shall be installed 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 concrete underlayment slab shall not vary more than one half (1/2) inch of its proposed elevation. See detail plans for cross section of typical unit paver system.

SAND SETTING BED

Sand shall be spread over CONCRETE LANDING SLAB to the depth indicated on the plans and filter fabric as a setting bed for pavers. Sand shall be spread 1/2" in. thick, and leveled to required slope and grade. Minimum thickness of sand shall be 1/2" after leveling. Bed shall not be compacted until pavers are installed. Surface tolerance shall be within 1/4 in. of required grade as measured with a 10 ft. straightedge in both the transverse and longitudinal directions.

PAVER INSTALLATION

Setting bed shall be protected from damage prior to setting pavers. Unit pavers shall be set on sand setting bed. 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 shall not exceed 1/16 in. 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.

BASIS OF PAVEMENT

This work shall be measured and paid for at the contract unit price per square feet for GRANITE PAVERS. Sand setting bed, joint sand, sealant and stabilizer will be included in the unit price and will not be paid for separately.

X0325942 CONCRETE LANDING SLAB

DESCRIPTION.

This work shall consist of constructing reinforced portland cement sub-base slab for concrete/stone paver as indicated in the plans. This work shall be done in accordance with Section 424 of the Standard Specifications, except as modified herein, and with the details shown in the plans.

MATERIALS.

Steel Welded Wire Fabric (WWF) shall be placed within the sidewalk slab for additional reinforcement.

BASIS OF PAYMENT.

This work will be paid for at the contract unit price per square foot for CONCRETE LANDING SLAB of the thickness specified.

X0326498 GFCI 20 AMP DUPLEX RECEPTACLE

DESCRIPTION.

This work shall consist of furnishing and installing a ground mounted receptacle in a planter box to power to holiday tree lighting where shown on the Contract Drawings.

All work related to the installation of the receptacle shall be included (excavation, installation of receptacle, in-use rated cover, rigid galvanized steel conduit, transition coupling, backfill, disposal of surplus excavated material, etc.) The wiring and HDPE conduit will be paid for separately.

MATERIALS.

The receptacle shall be rated WR, weather-resistant, 20 amp 120 volt GFCI type installed in a cast aluminum device box with a die cast aluminum in-use rated weather proof cover as shown on the drawings. The box shall be supported by two (2) rigid galvanized steel conduits. The box, cover and above grade conduits shall be primed and painted black with an approved exterior black paint. All materials shall be in accordance with the contract plan drawings and requirements.

CONSTRUCTION REQUIREMENTS.

All work shall be installed as shown on the contract plan drawings, N.E.C., and in accordance with Sections 801, 810, 811 and 817 of the Standard Specifications.

The Contractor shall be responsible for coordinating all work.

MEASUREMENT AND PAYMENT.

The work shall be paid for at the contract unit price each for GFCI 20 AMP DUPLEX RECEPTACLE, which price shall be payment in full for all material, labor and any other items required to complete the work.

X0326654 ORNAMENTAL LIGHT UNIT, COMPLETE

DESCRIPTION. This work shall consist of furnishing and installing a 12' aluminum light pole complete with post top luminaire, lamp, pole wiring, fuses/fuse holders, GFCI receptacle with in-use rated cover as shown on the plans or directed by the Engineer.

MATERIALS. All materials shall be UL or ETL classified and in accordance with the contract plan drawings and Sections 1066, 1067, and 1069 of the Standard Specifications.

Poles and all components shall be factory painted black.

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.

MEASUREMENT AND PAYMENT. The work shall be paid for at the contract unit price each for ORNAMENTAL LIGHT UNIT, COMPLETE which shall be payment in full for all material, labor and any other items required to complete the work.

X0326864 BRICK SIDEWALK REMOVAL

DESCRIPTION.

This work shall consist of removing the existing brick pavers on driveways and sidewalk. The brick pavers shall be cleaned, palette and set aside. Cleaning shall consist of removing all debris, mud, markings, etc. with water and a brush.

After the brick pavers have been removed, the walkway shall remain accessible at all times. The pay item TEMPORARY ACCESS WALK has been included in the contract and shall be used for maintaining access to and from adjacent properties and to crosswalk across all streets.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT.

This work will be paid for at the contact unit price per square foot for BRICK SIDEWALK REMOVAL, which price shall be payment in full for removing, saw cutting, cleaning, stacking, transporting and installing the brick pavers, transporting and installing additional brick pavers if required, excavating, furnishing and installing the bedding layer of sand and all labor, equipment and materials necessary to complete the as specified herein.

X326899 SOLAR-POWERED FLASHING BEACON ASSEMBLY (COMPLETE)

Description.

This work shall consist of furnishing and installing the solar-powered flashing beacon assembly complete with two LED signal modules, solar panel, warning signs and plaques, battery pack with charger, LED driver, wireless communications equipment, pedestrian pushbutton, traffic signal post, foundation.

Materials.

All materials furnished, assembled, fabricated, or installed shall be corrosion resistant. All mounting hardware shall be Type 304 stainless steel.

All components shall be manufactured and assembled as a complete system rated for at least 300 cycles per day. The solar-powered system shall be an easy to install, fully self-contained, weather, corrosion, and vandal-resistant unit with a premium grade UV-resistant head. The system shall be

power autonomous without the need for an external power supply. The system shall have an operating temperature range of 5 degrees to 122 degrees Fahrenheit (-15 degrees to 50 degrees Celsius).

The Contractor shall furnish and install two 12" diameter yellow flashing LED signal modules with visors mounted to the post as indicated on the plans. All equipment and hardware required to mount the signals and solar engine to the assembly are included in the cost of this item. The flush pattern shall be MUTCD compliant. All signal housing shall be painted black.

The batteries shall be sealed, maintenance free, field-replaceable. The battery pack shall have a minimum rated lifespan of 3 years.

The solar engine shall be the high-efficiency type and rated for 20 watts. The system shall have the capacity to operate the beacons continuously for 30 days without solar charging and have automatic light control to provide useful light during extreme conditions that prevent charging over an extended period of time.

Each flashing beacon unit shall be activated by one pedestrian push button. The pedestrian push button shall meet requirements of Section 888 of the Standard Specifications as well as MUTCD and ADA requirements.

All wiring for connecting the pedestrian push buttons, flasher unit, solar power unit, and other installed components shall be included in the cost of SOLAR—POWERED FLASHING BEACON ASSEMBLY (COMPLETE).

At each intersection, all installed solar powered flashing beacon assemblies must communicate wirelessly using an unlicensed radio band so as to simultaneously commence operation of their alternating flashing indications and cease operation simultaneously. The communication equipment shall comply with FCC requirements and the vendor representative shall field test the equipment prior to placing the units in operation. The wireless communications of one beacon shall not interfere with, or cause unintended operation of, beacons at nearby intersection.

The flashing beacon assembly shall be installed and mounted as indicated in the plans, using a Concrete Foundation Type A. A galvanized steel traffic signal post meeting the requirements of Section 875 of the Standard Specifications, of the diameter and length recommended by the beacon manufacturer, up to a maximum length of 18 feet, shall be used to support the flashing beacon assembly hardware. All posts, foundations, and bases shall be steel and hot dipped galvanized.

A post shroud of suitable size for the foundation and post, shall be included in the assembly for protection of the base plate. The shroud shall be constructed and designed to allow air to circulate throughout the post but not allow infestation of insects or other animals, and such that it is not hazardous to probing fingers and feet. All mounting hardware shall be stainless steel.

The beacon assembly shall include signage as shown on the plans. The signs shall be in accordance with Section 720 of the Standard Specifications.

The entire system shall have a minimum 3-year warranty.

Installation.

The solar powered flashing beacon assembly and system shall be installed in strict accordance with the manufacturer's recommendations, applicable portions of Article 880.03 of the Standard Specifications, as shown on the Plans, and as directed by the Engineer.

Mounting of the hardware to the foundation shall be in accordance with the Standard Specifications modified herein and shall follow all manufacturer recommendations. The traffic signal post and shroud shall be installed on the foundation in accordance with the manufacturer recommendations. The beacons and solar engine shall be attached to the structure using rigid galvanized steel conduit, stainless steel straps, manufacturer recommended mounting brackets, and U-bolts.

The beacons shall be installed as shown on the Plans. The final elevation and location of the beacons must be approved by the engineer prior to beginning work.

The solar panel shall be installed at the highest point on the assembly structure, or as directed by the Resident Engineer, and away from the travelled way. The solar engine shall be installed at a 45-degree angle facing the equator (due south) with full unobstructed solar exposure for optimum performance of the system, or as recommended by the manufacturer and directed by the Engineer.

Basis of Payment.

This item will be paid at the contract unit price each for SOLAR-POWERED FLASHING BEACON ASSEMBLY (COMPLETE), which shall be payment in full for furnishing and installing the support structure finished according to the plans, LED modules, solar power equipment, wiring, mounting hardware, control or circuit board hardware, housings, communications equipment, post, shroud, foundations, pedestrian push button, warning signs and plaques, and all other materials, labor, hardware, and connections required to achieve proper operations of the flashing beacon assembly to the satisfaction of the Engineer.

X0326981 ENGINEERED SOIL FURNISH AND PLACE (SPECIAL)

DESCRIPTION.

Work under this item shall consist of furnishing and placing STRUCTURAL SOIL to meet finish grade elevations as specified on the plans or herein and be performed in accordance with Section 310 of the Standard Specifications and US Patent #5,849,069 for 'CU-Structural Soil™' (see material specification), except as herein modified. Structural soil is designed to function as a sub-base material under sidewalk and pavement, as well as a growing media outside the tree pits.

DEFINITIONS.

The following references are abbreviated and used herein and shall be interpreted as follows:

"CBR" means "California Bearing Ratio".

"Structural Soil" refers to "CU Soil" as defined and specified by the patent for "CU Soil" and as specified here.

“USDA” means “United States Department of Agriculture”.

QUALITY ASSURANCE.

Material provided shall be ‘CU-Structural Soil™’, US Patent #5,849,069. The material shall be produced and obtained from the exclusively licensed vendor, Amereq, Inc. (800) 832-8788, or from a sub-licensed vendor such as Midwest Trading in St. Charles, IL, (847) 742-1840 or

- Gail Materials, Corona, CA, (951)-667-6106
- Plaisted Companies, Inc., Elk River, MN, (763)-441-1100.

At least 10 days prior to installation, the Contractor shall submit to the Engineer a copy of the vendor’s license, proof of purchase from that vendor, and a copy of the vendor’s material test reports for that specific batch of material. No materials shall be ordered until the required submittals have been reviewed and approved by the Engineer. Approval shall not constitute final acceptance. The Engineer reserves the right to reject, on or after delivery, any material that does not meet these specifications.

Submit material test reports for the following, certifying the materials comply with the following criteria:

A. Clay Loam

1. Clay Loam shall be a “clay loam” based on the “USDA classification system” as determined by mechanical analysis (ASTM D-422) and it shall be of uniform composition, without admixture of subsoil.
2. Mechanical analysis for a Loam / Clay Loam shall be as follows:

<u>Textural Class</u>	<u>% of total weight</u>
Gravel	less than 5%
Sand	20 - 45%
Silt	20 - 50%
Clay	20 - 40%
3. Chemical analysis: Meet or be amended to meet the following criteria.
 - a. pH between 7.0 and 7.5
 - b. Percent organic matter 2 -5% by dry weight.
 - c. Nutrient levels as required by the testing laboratory recommendations for the type of plants to be grown in the soil.
 - d. Toxic elements and compounds below the United States Environmental Protection Agency Standards for Exceptional Quality sludge or local standard; whichever is more stringent.
 - e. Soluble salt less than 1.0 Milliohm per cm.
 - f. Cation Exchange Capacity (CEC) greater than 10
 - g. Carbon/Nitrogen Ratio less than 33:1.
4. Clay Loam shall be the product of a commercial processing facility specializing in production of stripped natural topsoil.

B. Crushed Stone

1. Crushed Stone shall be a DOT certified crushed stone. A non-limestone aggregate will be preferred. The maximum allowable aggregate able to pass the

½ inch sieve is 10 percent. A ratio of nominal maximum to nominal minimum particle size of 2.

2. Acceptable aggregate dimensions will not exceed 2.5:1.0 for any two dimensions chosen. Minimum 90 percent with one fractured face, minimum 75 percent with two or more fractured faces.
3. Results of Aggregate Soundness Loss test shall not exceed 18 percent.
4. Losses from LA Abrasion tests shall not exceed 40%.

C. Hyrogel

1. Hydrogel shall be a potassium propenoate-propenamide copolymer

D. Water

1. The Contractor shall be responsible to furnish his own supply of water to the site at no extra cost. All work injured or damaged due to the lack of water, or the use of too much water, shall be the Contractor's responsibility to correct. Water shall be free from impurities injurious to vegetation.

E. Final Mix Criteria

1. A uniformly blended mixture of Crushed Stone, Clay Loam and Hydrogel, mixed to the following proportion:

MATERIAL	UNITS OF WEIGHT (either metric or English)
Crushed Stone	100 units or 80-84% of total weight
Loam (dry)	Approx. 20 units or 15-16% of total weight
Hydrogel	0.03 units or 12 oz./ cubic yard
Total moisture	8.5 -11.0 % of total weight (AASHTO T-99 optimum moisture)

2. Submit certification that CBR test results meet acceptance (CBR # 50).
3. Submit certification that Proctor test standard is met (> or equal to 95%.)

DELIVERY, STORAGE AND HANDLING.

1. Do not deliver or place soils in frozen, wet, or muddy conditions. Material shall be delivered at or near optimum compaction moisture content as determined by AASHTO T 99 (ASTM D 698). Do not deliver or place materials in an excessively moist condition (beyond 2 percent above optimum compaction moisture content as determined by AASHTO T 99 (ASTM D 698).
2. Protect soils and mixes from absorbing excess water and from erosion at all times. Do not store materials unprotected from large rainfall events. Do not allow excess water to enter site prior to compaction. If water is introduced into the material after grading, allow material to drain or aerate to optimum compaction moisture content.

GENERAL REQUIREMENTS.

1. Locate and confirm the location of all underground utility lines and structures prior to the start of any excavation. Repair any underground utilities or foundations damaged by the Contractor during progress of work incidental to contract.

2. Complete all walls, curb footings and utility work in the work area prior to installing Structural Soil.
3. Verify that sub-base is adequately graded and compacted prior to placement. Notify the Engineer of any subsurface conditions which will effect the Contractor's ability to complete the work.
4. Excavate and compact the proposed sub-grade to depths, slopes and widths as shown on the contract plans. Confirm that the sub-grade is at the proper elevation and compacted as required. Sub-grade elevations shall slope parallel to the finished grade and or toward the subsurface drain lines as shown on the drawings.
5. Clear the excavation of all construction debris, trash, rubble and any foreign material. In the event that fuels, oils, concrete washout, silts or other material harmful to plants have been spilled into the sub-grade material, excavate the soil sufficiently to remove the harmful material. Fill any over excavation with approved fill and compact to the required sub-grade compaction.
6. Stockpiling of material on site will not be permitted, unless otherwise directed by the Engineer.
7. Protect adjacent walls, walks and utilities from damage or staining by the soil. Use 1/2" plywood and or plastic sheeting as directed to cover existing concrete, metal and masonry work and other items as directed during the progress of the work. Any damage to adjacent facilities incurred during the installation of structural soil shall be repaired incidental to this item.
8. Install CU Soil in 6 inch lifts to the depth indicated on the contract plans and compact each lift as specified here.
9. Compact all materials to peak dry density from a standard AASHTO compaction curve (AASHTO T 99). No compaction shall occur when moisture content exceeds maximum as listed herein. Delay compaction 24 hours if moisture content exceeds maximum allow-able and protect CU Soil during delays in compaction with plastic or plywood as directed by the Engineer.
10. Bring Structural Soils to finished grades as shown on the contract plans. Immediately protect the Structural Soil from contamination by toxic materials, trash, debris, water containing cement, clay, silt or materials that will alter the particle size distribution of the mix with plastic or plywood as directed by the Engineer.
11. Clean up work area at the end of each working day. Do not track soil from the site onto adjacent property and the public right of way.
12. Upon completion of the of this work, remove all excess fills, soils and mix stockpiles and legally dispose of all waste materials, trash and debris. Remove all tools and equipment and provide a clean, clear site. SWEEP, DO NOT WASH SURFACES OF DIRT AND MUD UNTIL SIDEWALK HAS BEEN INSTALLED OVER THE ENGINEERED SOIL.

METHOD OF MEASUREMENT.

ENGINEERED SOIL will be measured in place and the volume computed in cubic yards. The cubic yards measured will be paid for only once.

BASIS OF PAYMENT.

ENGINEERED SOIL, FURNISH AND PLACE (SPECIAL) will be paid for at the contract unit price per cubic yard for which price shall be payment in full for completing the work as specified.

X0327141 LIGHT STANDARD, TYPE 4A

DESCRIPTION

This work shall consist of furnishing and installing a 25' aluminum light pole complete with a single 8' davit arm, luminaire, GFCI receptacle with in-use rated cover, and all hardware/accessories on a concrete foundation as shown on the contract drawings.

MATERIALS

All materials shall be UL or ETL classified.

The contractor shall also furnish and install lamp, pole wiring, pole ground lug and fuse holders/fusing in accordance with the contract plan drawings and Sections 1065.01, 1066.09 and 1067.06(b) of the Standard Specifications.

Pole and all components shall be factory painted black.

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.

MEASUREMENT AND PAYMENT

The work shall be paid for at the contract unit price each for LIGHT STANDARD, TYPE 4A, which price shall be payment in full for all material, labor and any other items required to complete the work.

X0327142 LIGHT STANDARD, TYPE 4B

DESCRIPTION

This work shall consist of furnishing and installing a 25' aluminum light pole complete with dual 8' davit arms mounted at 90 degrees, 2 luminaires, GFCI receptacle with in-use rated cover, and all hardware/accessories on a concrete foundation as shown on the contract drawings.

MATERIALS

All materials shall be UL or ETL classified.

The contractor shall also furnish and install lamp, pole wiring, pole ground lug and fuse holders/fusing in accordance with the contract plan drawings and Sections 1065.01, 1066.09 and 1067.06(b) of the Standard Specifications.

Pole and all components shall be factory painted black.

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.

MEASUREMENT AND PAYMENT

The work shall be paid for at the contract unit price each for LIGHT STANDARD, TYPE 4B, which price shall be payment in full for all material, labor and any other items required to complete the work.

X0327146 RELOCATE BIKE RACK

DESCRIPTION

This work shall consist of RELOCATE BIKE RACK at location as shown on the Plans.

The bike racks, associated hardware and appurtenance and all components of concrete foundation shall be completely removed and returned to the City of Park Ridge Public Works Department (400 Busse Highway, Park Ridge, 847-318-5240). Any damage resulting from the removal and/or transportation and associated hardware, shall be repaired or replaced in kind.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

This work shall be paid for at the contract unit price per each for RELOCATE BIKE RACK which shall include all material, labor, equipment, and incidentals necessary to complete the work.

X0327149 RELOCATE BENCH

DESCRIPTION

This work shall consist of RELOCATE BENCH at location as shown on the Plans.

The street benches, associated hardware and appurtenance and all components of concrete foundation shall be completely removed and returned to the City of Park Ridge Public Works Department. Any damage resulting from the removal and/or transportation and associated hardware, shall be repaired or replaced in kind.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

This work shall be paid for at the contract unit price per each for RELOCATE BENCH which shall include all material, labor, equipment, and incidentals necessary to complete the work.

X0327552 TREE GRATE REMOVAL

DESCRIPTION

The work shall consist of removing an existing tree grate at locations shown on the plans.

GENERAL

All existing tree grates shall be carefully removed and delivered to the City of Park Ridge Public Work Department located at 400 Busse Hwy (ph. 847-318-5241) All other material shall be removed from the right-of-way and disposed of by the Contractor.

Tree grate deemed unsalvageable by the Engineer shall be removed and disposed of according to Article 202.03 of the "Standard Specifications".

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

This work shall be paid for at the contract unit price per each for TREE GRATE REMOVAL which shall include all material, labor, equipment, and incidentals necessary to complete the work.

X0327814 PLANTING MIX FURNISH AND PLACE, 24"

Work under this item shall be performed in accordance with Section 200 of the Standard Specifications for Road and Bridge Construction except as modified herein.

Description: This work shall consist of furnishing, transporting, testing, preparing, and

placing planting soil including finish grading to the depth specified in areas as shown in the plans or as directed by the Engineer.

General Requirements: In general the planting soil shall be two (2) parts pulverized top soil and one (1) part coarse sand. The sand, in the amount required to produce an acceptable planting soil, shall be added and mixed during the pulverization process only. The sand shall be of an FA 2 gradation.

Soil Stockpiling: The Contractor shall obtain the total quantity of planting soil required for this project and stockpile this material at an acceptable offsite location a minimum of 30 days in advance of placement. The stockpile must be covered to avoid excessive moisture content and erosion. The Contractor shall have the material tested following the guidelines presented below under Soil Testing and, if approved, this stockpile shall be the sole source for planting soil to be delivered to site. The test results and a Request for Inspection form should be sent to the Engineer prior to delivering the material to site. This transmittal must also identify the location of the stockpile. If there are any changes in the source the Contractor shall notify the Engineer immediately. No additional time will be allowed for the completion of this project in order to substitute, test, and approve a new source of planting soil.

Delivery, Storage and Handling: Protect soil from absorbing excess water and from erosion at all times. Do not store materials unprotected from large rainfall events. Do not allow excess water to enter site prior.

Soil Testing: No planting soil shall be delivered to the site until the Engineer has reviewed test results and has accepted the planting soil. The Contractor shall employ a soil testing agency acceptable to the Engineer, which uses test methods approved by the Association of Agricultural Chemists. Test frequency shall be as follows:

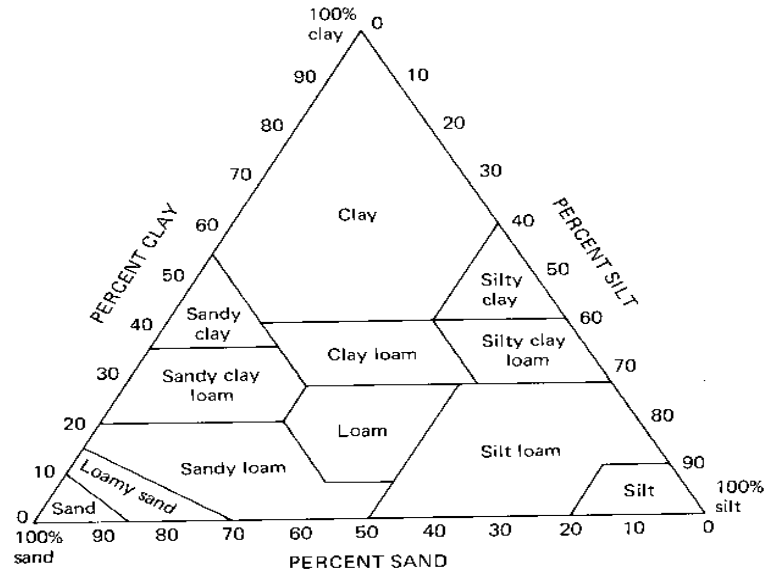
<u>Quantity of Soil Placed (c.y.)</u>	<u>Number of Tests</u>
1 - 200	1
200 – 1000	3
1000 <	$((\text{Quantity} - 1000) / 500) + 3$ round up to whole number

When more than one test is performed, the average of the test results will be used to determine acceptance.

The planting soil test report must obtain the following information:

HIGH LOW

1. Chemical Analysis			
a. pH		7.0	6.5
2. Mechanical Analysis			
a. % clay		25%	0%
b. % silt		77%	45%
c. % sand		33%	25%
3. Additionally the following variables are required.			
d. cation exchange capacity (CEC)			
e. soluble salts			
f. organic matter			
g. phosphorous			
h. available potassium			
i. nutrients			
j. residual chemicals			
k. Recommendations to mitigate any issues from the results in items 3a through 3g.			



The mechanical analysis should show that the % sand, % silt, and the % clay must yield a silt loam soil. See the attached Textural Classes diagram above. To determine the class plot a line parallel to the % clay axis starting the line at the value of the % silt. Plot another line parallel to the % sand axis starting the line at the value of the % clay. The intersection of these lines should be in the silt loam region, for the soil to be approved.

Preparation and Placement:

1. Perform or coordinate final adjustments of any utility structure.
2. Clean planters of all trash and debris before placement of soil mix. Remove and legally dispose of debris off site in accordance with Article 202.03. Repair to the satisfaction of the Engineer any portion of the geotechnical fabric or drainage layers prior to installation of planting soil mix.
3. Place, spread and rough grade specified planting soil to depths specified in all areas to be planted. Place planting soil mix in two level (2) lifts. The first lift shall contain 2/3 of the planter soil depth. After placing each lift, moisten the surface at a rate sufficient to hydraulically settle the soil, as determined by the Engineer. Allow water to thoroughly percolate through the soil before placing the next lift. Allow for settling, and place additional planting soil as necessary. Allow for placement and mixing of compost, as determined by the Engineer, but place enough soil mix to meet finish grades within ± 0.10 foot of design grades.

4. Rake smooth and finish grade all planted areas. The removal of excess material or the addition of planting soil may be required prior to landscaping. This shall be considered incidental to planting soil. Grading will be to a tolerance +/- .10 foot of design grades. Any grade disturbed by irrigation installation shall be restored to finish grade and raked smooth.

5. All debris, litter, tire tracks, dirt, and unintended materials shall be removed, swept or washed off of all landscape, hard median surfaces, and pavement on a daily basis.

Planter Soil Acceptance:

The Engineer retains the right to visually inspect planting soil mix on site before placement. The Engineer may ask that material suspected of not meeting specification be removed from the site, until the material can be mechanically tested.

The final determination of the planter soil quality shall be based upon soil tests taken by the Engineer. The samples shall be taken at the time of planting soil installation. The samples will be tested by independent accredited agencies, for the Engineer. The test frequency shall be the same as listed above. When more than one test is required, the percentages of sand, silt and clay will be averaged. This averaged value will be used to determine the soil quality.

If the averaged test result for sand or silt content is outside the range specified by less than five (5%) percent, an adjusted unit price will be used in computing payment for the planting soil. The adjusted unit price will be a percentage of the contract unit price as given in the following schedule:

<u>Average Sand or Silt Deficiency</u>	<u>Percent of Contract Payment</u>
0 to 2	80
2.1 to 4	66
4.1 to 5	50

Clay content in excess of this specification by two (2%) percent or less: If the averaged result for clay is outside the range specified by less than two (2%) percent an adjusted unit price will be used in computing payment for the planting soil. The adjusted unit price will be sixty-six (66%) percent of the contract unit price.

The Contractor shall remove all planting soil and install material meeting this specification. The Contractor shall be responsible for all costs incurred to remove deficient material and install acceptable planting soil. The Contractor shall be

responsible for any damage to plant material, irrigation system, waterproof membrane, or any other damage caused by this work. The Contractor shall be responsible for all additional traffic control. No addition time will be provided in the contract to perform remedial work.

Method of Measurement: Planting Mix Furnish and Place will be measured for payment in place to the depth specified in square yards. Areas not meeting the depth specified shall not be measured for payment.

Basis of Payment: This work will be paid for at the contract unit price per square yard (square meter) for PLANTING MIX FURNISH AND PLACE, of the thickness specified. Payment shall include all testing, furnishing, stockpiling, transporting of materials, all labor and equipment necessary, disposal and incidentals required to complete the work as specified herein and to the satisfaction of the Engineer. Furnishing and Placing Compost shall be paid for separately.

X0539800 TREE GRATES

DESCRIPTION. This work shall consist of furnishing and installing tree grates around trees as shown on the plans. This work shall also include setting the frame with grate, and all necessary excavation and backfill. This work shall be done in accordance with Section 604 of the Standard Specifications and as specified herein.

SUBMITTALS. Prior to fabrication, Contractor shall submit for approvals four sets of shop drawings for the proposed tree grates. The shop drawings shall indicate locations, fabrication details, unit identification marks, reinforcement, connection details, dimensions, and relationship to adjacent materials. The contractor shall submit operation/maintenance recommendations, spare parts, manuals and warranties to the Engineer.

MATERIALS. Materials shall be as specified in the plans and shall be "Natural Finish" in color, 48" x 72" Tree Grate by the following manufacturer:

Neenah Foundry, Kalamazoo, MI

Materials shall be Neenah Foundry R-8811 by Neenah Foundry

FINISH – Finish shall be Natural Finish.

INSTALLATION. TREE GRATES shall be installed per manufacturer's directions and recommendations in the locations as indicated on the drawings. The surrounding area shall be kept clean at all times and following installation, all materials and debris shall be removed from the area. The disturbed area under the tree grate shall be backfilled with planting soil mix per the specifications or other material approved by the Engineer. Backfill will not be paid for separately and shall be included in the cost of this item.

BASIS OF PAYMENT. This work shall be measured and paid for at the contract unit price per each **TREE GRATES** of the quantity specified, which price shall include all materials, equipment and labor as specified herein.

X0540000 BRICK PAVERS

DESCRIPTION. This work shall consist of unit pavers constructed in a triple soldier course band on a prepared subgrade. This work shall also include all required sand setting bed, and paver joint material. This work shall be done at the locations specified in the Contract plans or as directed by the engineer.

QUALIFICATION. The Contractor shall provide written evidence that his firm or other entity proposed for the unit paving work has specific experience meeting the following criteria:

1. Experience installing unit pavers using sand setting beds.
2. Installed (within past three years) a minimum of 100,000 square feet per year for the past three years of unit paving using sand setting beds.
3. The same experienced supervisory personnel will be made available for this project.

If requested the paving firm shall submit a list of comparable projects setting forth description, square footage, location and knowledgeable references with addresses and phone numbers.

Any material substitutions must be submitted to the Engineer and Owner for review no later than ten (10) days prior to submitting bids. Submittals for consideration shall include full-sized samples and technical specifications. The Engineer will review the substitution proposal and, if approved, will issue written approval. Substitution submittals received after time outlined above will not be considered. Substitutions during construction will not be allowed.

MATERIALS. **BRICK PAVERS** shall be "Cophthorne" Concrete Pavers as manufactured by Unilock. The manufacturer must be enrolled in IDOT's QC/QA program. Color shall be random three color blend Burgundy Red, Burnt Clay and Old Oak.

BRICK PAVERS shall be the following sizes:

1. 100% (By Area): Nominal 7.80" x 2.54" x 2.34" in size.

All pavers shall have a minimum compressive strength of 8,000 PSI and an absorption rate of less than 6% when tested, in accordance with ASTM C140 and C936.

Pavers shall have the following major components:

1. Cement: ASTM C-150 Portland Cement, Type 1
2. Aggregates: ASTM C33 (washed, graded sand and natural aggregates, no expanded shale or lightweight aggregates)
3. Additives: Calcium stearates should be added to mix to prevent efflorescence of pavers.

4. Coloring agents: Natural iron oxide pigments.

There shall be no variation in the depth of each paver. Pavers with extensive breakage of corners shall be rejected. Field pavers shall be laid as indicated on the plan and shall be an equal mixture of the standard colors. Final colors shall be approved by Engineer or Owner prior to work.

Sand for setting bed shall meet the requirements of Section 1003 of the Standard Specifications for FA-6. Thickness of setting bed shall vary to allow the surface of the pavers to be at the required finished grade. The paver joint material shall be dry sand conforming to ASTM C-144 with all particles passing the No. 16 sieve. Filter fabric materials and accessories shall be as indicated on the drawings. Final selection of filter fabric material shall be approved by the Engineer prior to installation.

CONSTRUCTION. Pavers shall be installed 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 concrete underlayment slab shall not vary more than one half (1/2) inch of its proposed elevation. See detail plans for cross section of typical unit paver system.

To reduce dust during paver installation, unit 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 paver. Paver edgings shall be installed per manufacturer's recommendations.

SAND SETTING BED. Sand shall be spread over **CONCRETE LANDING SLAB** to the depth indicated on the plans and filter fabric as a setting bed for pavers. Sand shall be spread 3/4 in. thick, and leveled to required slope and grade. Minimum thickness of sand shall be 3/4" after leveling. Bed shall not be compacted until pavers are installed. Surface tolerance shall be within 1/4 in. of required grade as measured with a 10 ft. straightedge in both the transverse and longitudinal directions.

PAVER INSTALLATION. Setting bed shall be protected from damage prior to setting pavers. Unit pavers shall be set on sand setting bed. 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 shall not exceed 1/16 in. 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.

BASIS OF PAYMENT. This work shall be measured and paid for at the contract unit price per square foot for **BRICK PAVERS**. Sand setting bed, joint sand, sealant and stabilizer, and paver edging will be considered incidental to the unit price and will not be paid for separately.

X2080250 TRENCH BACKFILL, SPECIAL

This work shall consist of furnishing and placing Trench Backfill within tree grate and planter limit as shown on the Contract plans. This work shall be done in accordance with Section 311 of the Standard Specifications and as specified herein.

GENERAL REQUIREMENTS

Gravel Backfill, CA-7 shall be placed at the location as specified in the Contract plans.

MATERIALS

Materials shall be as specified in the plans and shall be Gravel Backfill CA-7.

BASIS OF PAYMENT

The work under this item will be paid for at the contract unit price per cubic yard as shown in the Schedule of Unit Prices for TRENCH BACKFILL (SPECIAL), which price will include labor, installation, equipment, materials and incidental work necessary to complete the installation as specified.

X4200408 PORTLAND CEMENT CONCRETE PAVEMENT 8", SPECIAL

DESCRIPTION

This work shall consist of constructing TINTED PORTLAND CEMENT CROSSWALK on a prepared subgrade as indicated in the plans. This work shall be done in accordance with Section 424 of the Standard Specifications, except as modified herein, and with the details shown in the plans.

QUALIFICATIONS

The Contractor shall provide written evidence that his firm or other entity proposed for the tinted portland cement paving work has at a minimum two years' experience with projects of similar scope and quality.

MATERIALS

(a) Tinted portland cement concrete shall be integrally-colored (Uni-Mix Integral, Lanon Stone (U26) color by Butterfield Color). Color and proportions shall be mixed with portland cement concrete per manufacturer's instructions.

(b) Steel Welded Wire Fabric (WWF) shall be placed within the sidewalk slab for additional reinforcement.

FINISHING

Provide a 1-foot band of smooth troweled finish as shown on plans and details.

SAMPLES

Contractor shall submit product data and mix design from manufacturer to be approved by Engineer before fabrication.

FIELD MOCK UP

Contractor shall provide a 4 foot by 4 foot field mock up to demonstrate finish, color, and texture of integrally-colored cement concrete pavement to be approved by Engineer before fabrication.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per square yard for PORTLAND CEMENT CONCRETE PAVEMENT 8", SPECIAL of the thickness specified.

X4240430 PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH. SPECIAL

DESCRIPTION

This work shall consist of constructing tinted portland cement sidewalk and sidewalk accessibility ramps on a prepared subgrade as indicated in the plans. This work does not include sidewalk that is integrally part of a structure. This work shall be done in accordance with Section 424 of the Standard Specifications, except as modified herein, and with the details shown in the plans.

QUALIFICATIONS

The Contractor shall provide written evidence that his firm or other entity proposed for the tinted portland cement paving work has at a minimum two years' experience with projects of similar scope and quality.

MATERIALS

(a) Tinted portland cement concrete shall be integrally-colored "Lanon Stone (U26)" by Butterfield Color. Color and proportions shall be mixed with portland cement concrete per manufacturer's instructions, or

- Davis Colors, custom color to match existing concrete on site, or
- Scofield, custom color to match existing concrete on site.

(b) Steel Welded Wire Fabric (WWF) shall be poured within the sidewalk slab for additional reinforcement.

FINISHING

Adjacent to buildings, provide a 1-foot band of smooth troweled finish as shown on plans and details.

SAMPLES

Contractor shall submit product data and mix design from manufacturer to be approved by Engineer before fabrication.

FIELD MOCK UP

Contractor shall provide a 4 foot by 4 foot field mock up to demonstrate finish, color, and texture of integrally-colored cement concrete pavement to be approved by Engineer before fabrication.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per square foot for PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH, SPECIAL of the thickness specified.

X6300230 STEEL POSTS

DESCRIPTION

This work shall consist of furnishing and installing signs support and concrete foundation according to Section 727 and Section 734 of "Standard Specification" at the locations indicated in the plans and as directed by the Engineer.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

This work will be paid for at the contract unit price per each for STEEL POSTS which price shall include all cost for labor, materials, equipment, and incidentals necessary to perform the work.

X8140105 HANDHOLE (SPECIAL)

DESCRIPTION. This work shall consist of furnishing and installing a 12"x12"x12" deep composite concrete handhole as shown on the plans or directed by the Engineer. All work related to the installation of the handhole shall be included (excavation, installation of handhole and cover, french drain, backfill, disposal of surplus excavated material, etc.)

MATERIALS. All materials shall be in accordance with the contract plan drawings and requirements.

CONSTRUCTION REQUIREMENTS. The handhole shall be precast constructed of polymer concrete. The box and lid shall meet or exceed ANSI Tier 15 loading requirements and also be tested in accordance with the latest edition of NASI/SCTE 77. The box shall be placed on 12" of crushed stone for drainage. The lid shall have a logo as shown on plans. All work shall be installed as shown on the contract plan drawings and in accordance with Sections 814 of the Standard Specifications.

The Contractor shall be responsible for coordinating all work.

MEASUREMENT AND PAYMENT. The work shall be paid for at the contract unit price each for HANDHOLE (SPECIAL), which shall be payment in full for all material, labor and any other items required to complete the work..

X8140210 HEAVY-DUTY HANDHOLE (SPECIAL)

DESCRIPTION. This work shall consist of furnishing and installing a 17"x30"x24" deep composite concrete handhole as shown on the plans or directed by the Engineer. All work related to the installation of the handhole shall be included (excavation, installation of handhole and cover, french drain, backfill, disposal of surplus excavate material, etc.)

MATERIALS. All materials shall be in accordance with the contract plan drawings and requirements.

CONSTRUCTION REQUIREMENTS. The handhole shall be precast constructed of polymer concrete. The box and lid shall meet or exceed ANSI Tier 15 loading requirements and also be tested in accordance with the latest edition of NASI/SCTE 77. The box shall be placed on 12" of crushed stone for drainage. The lid shall have a logo as shown on plans. All work shall be installed as shown on the contract plan drawings and in accordance with Sections 814 of the Standard Specifications.

The Contractor shall be responsible for coordinating all work.

MEASUREMENT AND PAYMENT. The work shall be paid for at the contract unit price each for HEAVY-DUTY HANDHOLE (SPECIAL), which shall be payment in full for all material, labor and any other items required to complete the work.

X8360110 LIGHT POLE FOUNDATION, SPECIAL

DESCRIPTION

This work shall consist of furnishing and installing an 18 inch diameter reinforced concrete light pole foundation as shown on the plans or directed by the Engineer. All work related to the installation of the foundation shall be included (excavation, reinforcement, ground rod, concrete, anchor bolts, backfilling, and disposal of surplus excavate material, etc.)

MATERIALS AND CONSTRUCTION REQUIREMENTS

The concrete foundation shall be constructed and installed per the details in the Contract Drawings, and in conformance with Section 836 of the Standard Specifications. Where soil conditions require support to prevent caving in of the shaft sidewall, the contractor shall be responsible for furnishing and installing a full depth form liner at no additional cost.

The Contractor shall be responsible for coordinating all work.

MEASUREMENT AND PAYMENT

The work shall be paid for at the contract unit price per foot for LIGHTPOLE FOUNDATION, SPECIAL which shall be payment in full for all material, labor and any other items required to complete the work.

X8360215 LIGHTPOLE FOUNDATION, 24" DIAMETER, OFFSET

DESCRIPTION.

This work shall consist of furnishing and installing a 24 inch diameter reinforced offset concrete light pole foundation as shown on the plans or directed by the Engineer. All work related to the installation of the foundation shall be included (excavation, reinforcement, ground rod, concrete, anchor bolts, backfilling, and disposal of surplus excavated material, etc.)

MATERIALS AND CONSTRUCTION REQUIREMENTS.

The concrete foundation shall be constructed and installed per the details in the Contract Drawings, and in conformance with Section 836 of the Standard Specifications. Where soil conditions require support to prevent caving in of the shaft sidewall, the contractor shall be responsible for furnishing and installing a full depth form liner at no additional cost.

The Contractor shall be responsible for coordinating all work.

MEASUREMENT AND PAYMENT

This work will be measure for payment in place along the horizontal and vertical centerlines with no overlap. The work shall be paid for at the contract unit price per foot for LIGHTPOLE FOUNDATION, 24" DIAMETER, OFFSET, which price shall be payment in full for all material, labor and any other items required to complete the work.

LR430050 CONCRETE PAVER SIDEWALK

DESCRIPTION. This work shall consist of unit pavers set at a 45 degree to pedestrian traffic, on a prepared subgrade. This work shall also include all required sand setting bed, and paver joint material. This work shall be done at the locations specified in the Contract plans or as directed by the engineer.

QUALIFICATION. The Contractor shall provide written evidence that his firm or other entity proposed for the unit paving work has specific experience meeting the following criteria:

- A. Experience installing unit pavers using sand setting beds.
- B. Installed (within past three years) a minimum of 100,000 square feet per year for the past three years of unit paving using sand setting beds.
- C. The same experienced supervisory personnel will be made available for this project.

If requested the paving firm shall submit a list of comparable projects setting forth description, square footage, location and knowledgeable references with addresses and phone numbers.

Any material substitutions must be submitted to the Engineer and Owner for review no later than ten (10) days prior to submitting bids. Submittals for consideration shall include full-sized samples and technical specifications. The Engineer will review the substitution proposal and, if approved, will issue written approval. Substitution submittals received after time outlined above will not be considered. Substitutions during construction will not be allowed.

MATERIALS. UNIT PAVERS shall be "Brussels Block" Concrete Pavers as manufactured by Unilock. The manufacturer must be enrolled in IDOT's QC/QA program. Color shall be 70% Limestone and 30% Sandstone.

UNIT PAVERS shall be the following sizes:

- D. 100% (By Area): Nominal Half Stone 6.75" x 4.06" x 2.73" in size, Standard 8.11" x 6.75" x 2.73" in size, and XL 13.57" x 8.11" x 2.73" in size.

All pavers shall have a minimum compressive strength of 8,000 PSI and an absorption rate of less than 6% when tested, in accordance with ASTM C140 and C936.

Pavers shall have the following major components:

- E. Cement: ASTM C-150 Portland Cement, Type 1
- F. Aggregates: ASTM C33 (washed, graded sand and natural aggregates, no expanded shale or lightweight aggregates)
- G. Additives: Calcium stearates should be added to mix to prevent efflorescence of pavers.

H. Coloring agents: Natural iron oxide pigments.

There shall be no variation in the depth of each paver. Pavers with extensive breakage of corners shall be rejected. Field pavers shall be laid as indicated on the plan and shall be an equal mixture of the standard color. Final colors shall be approved by Engineer or Owner prior to work.

Sand for setting bed shall meet the requirements of Section 1003 of the Standard Specifications for FA-6. Thickness of setting bed shall vary to allow the surface of the pavers to be at the required finished grade. The paver joint material shall be dry sand conforming to ASTM C-144 with all particles passing the No. 16 sieve. Filter fabric materials and accessories shall be as indicated on the drawings. Final selection of filter fabric material shall be approved by the Engineer prior to installation.

CONSTRUCTION. Pavers shall be installed 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 concrete underlayment slab shall not vary more than one half (1/2) inch of its proposed elevation. See detail plans for cross section of typical unit paver system.

To reduce dust during paver installation, unit 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 paver. Paver edgings shall be installed per manufacturer's recommendations.

Sand setting bed. Sand shall be spread over **CONCRETE LANDING SLAB** to the depth indicated on the plans and filter fabric as a setting bed for pavers. Sand shall be spread 1/2" in. thick, and leveled to required slope and grade. Minimum thickness of sand shall be 1/2" after leveling. Bed shall not be compacted until pavers are installed. Surface tolerance shall be within 1/4 in. of required grade as measured with a 10 ft. straightedge in both the transverse and longitudinal directions.

Paver installation. Setting bed shall be protected from damage prior to setting pavers. Unit pavers shall be set on sand setting bed. 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 shall not exceed 1/16 in. 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.

BASIS OF PAYMENT. This work shall be measured and paid for at the contract unit price per square yard for **CONCRETE PAVER SIDEWALK**. Sand setting bed, joint sand, sealant and stabilizer, and paver edging will be considered incidental to the unit price and will not be paid for separately.

X003079 REMOVE JUNCTION BOX

DESCRIPTION

This work shall consist of removing and disposing of a composite concrete handhole where shown on the plans.

CONSTRUCTION REQUIREMENTS

The entire handhole structure and cover shall be completely removed and disposed of. The void area shall be backfilled with approved material, and the surface reconstructed to match the adjoining area. If the handhole is located in the sidewalk area, the entire sidewalk square or squares where the handhole is located shall be replaced with new sidewalk. Sidewalk removal and replacement will be paid for separately.

MEASUREMENT AND PAYMENT

The work shall be paid for at the contract unit price each for REMOVE JUNCTION BOX, which price shall be payment in full for all material, labor and any other items required to complete the work.

XX002948 TEMPORARY ACCESS WALK

This work shall consist of the equipment, material and labor to install TEMPORARY ACCESS WALK/RAMP that provide access to and from adjacent properties and to crosswalk across all streets until the walkway is fully restored.

Access must be maintained to all existing properties during construction per article 107.09 unless arrangements are made in writing by the contractor with the property owners with a copy to engineer for short term closures.

TEMPORARY ACCESS WALK/RAMP shall be wood frame and plywood constructed with ADA and MUTCD requirements.

Contractor shall submit shop drawings for plywood walkways and ramps to Engineer for review and approval prior to construction. Contractor will be responsible for the observation and protection of temporary accesses at all times throughout the duration of the project. The Contractor shall also be responsible for the installation and maintenance of signage and other items to provide safe pedestrian access.

BASIS OF PAYMENT

This work shall be measured and paid for at the contract unit price per each TEMPORARY ACCESS WALK which shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing/removal TEMPORARY ACCESS WALK.

XX005735 PLANTER CURB

DESCRIPTION

This work shall consist of constructing raised concrete curb around planters at the locations indicated in the plans.

MATERIALS

Materials shall be according to the following.

Item Article/Section

- (a) Portland Cement Concrete -----1020
- (b) Reinforcement Bars and Fabric -----1006.10
- (c) Coarse Aggregates.....1004
- (d) Fabric Materials.....1080

EQUIPMENT

Equipment shall be according to the following.

Item Article/Section

- Forms 1103.05

EXCAVATION

The sub-grade shall be excavated according to the cross section shown on the plans. All unsuitable material shall be removed and replaced with suitable material, and the sub-grade shall be compacted and finished to a firm, smooth surface.

FORMS

Forms shall be securely staked, braced and held firmly to the required line and grade, and shall be tight. All forms shall be cleaned and oiled before the concrete is placed against them. The concrete slump shall be adjusted to meet the tolerances for the type of work being performed.

PLACING CONCRETE

The improved sub-grade shall extend to the back of the curb. The sub-grade and forms will be checked and approved by the Engineer before the concrete is placed. The sub-grade shall be moistened prior to concrete placement. The concrete shall be thoroughly tamped and spaded or mechanically vibrated and finished smooth and even. Before the concrete is given the final finish, the surface of the curb will be checked with a 10 feet long straightedge, and any irregularities of more than 1/4 in. in 10 ft shall be eliminated.

At points where a proposed or existing sidewalk or driveway pavement occupies the entire space between the proposed curb and an adjacent building or permanent structure, 1 in. preformed expansion joint shall be placed between the sidewalk, building, or driveway pavement and the proposed curb. The expansion joint material shall extend the entire depth of the sidewalk, or driveway pavement, or to such depth as will allow 1 in. expansion between the proposed curb and adjacent sidewalk, building or driveway pavement.

Dowel bars for expansion and contraction joints in the raised concrete curb shall be spaced as shown on the plans.

Transverse contraction and longitudinal construction joints shall be sealed according to Article 420.12, except transverse joints in concrete curb shall be sealed with polysulfide joint sealant.

FINISHING

All exposed surfaces shall be finished smooth and even, and given a light brush finish while the concrete is still workable. The edges shall be formed to make 3/4" continuous bevel.

Forms shall be removed within 24 hours after the concrete has been placed and minor defects shall be filled with mortar consisting of one part portland cement to two parts fine aggregate.

BACKFILL

After the concrete has obtained the specified strength, the spaces in front and back of the construction shall be backfilled to the required elevation with material indicated in the plans, compacted, and neatly graded. This will be paid under TRENCH BACKFILL (SPECIAL) Pay Item.

BASIS OF PAYMENT

The raised curb will be paid for at the contract unit price per foot PLANTER CURB which price will include the epoxy coated reinforcement bars, framing and beveling, CA-6 leveling pad, filter fabric soil separator, all labor and material is also included. Excavation required in the performance of the work will be measured and paid for according to Section 202.

XX006614 MODIFY EXISTING CABINET EQUIPMENT AND APPURTENANCES

DESCRIPTION

This item shall consist of furnishing and installing two circuit breakers in an existing electrical panel to accommodate tree grate receptacle lighting, and updating the panel board schedule.

MATERIALS

Circuit breakers shall be 20A-120V GFCI type with 22 kAIR rating. Panel board schedule shall be updated per installed circuitry, computer typed and fastened to the panel.

CONSTRUCTION REQUIREMENTS

All work shall be in conformance with the contract plan drawings, NEC and local ordinances.

MEASUREMENT AND PAYMENT

This item will be measured for payment for each cabinet that is modified. The work shall be paid for at the contract unit price each for MODIFY EXISTING CABINET EQUIPMENT AND APPURTENANCES, which price shall be payment in full for all material, labor and any other items required to complete the work.

XX006736 PLANTER FENCE (SPECIAL)

DESCRIPTION

This work shall consist of fabricating, priming, painting and installing the 18" DECORATIVE METAL RAILING. This work shall be done in accordance with the Standard Specifications and the details shown on the plans.

SUBMITTALS

The Contractor shall submit shop drawings indicating profiles, sizes, connection statements, anchorage size and type of fasteners, welds and accessories as applicable.

MATERIALS

Pickets: Galvanized square steel tubular members, having a 45,000 psi (310 MPa) yield strength and hot-dip galvanized with a G90 zinc coating, 0.90 oz/ft² (0.27 kg/M²). Picket Size 1/2". Pickets are spaced 4" maximum on-center. Pickets are attached to rails at the factory through welding.

Rails: 1/2" x 1", 11 gauge [0.120" (3.05mm)] thick galvanized steel "U" channel, having a 50,000 psi (344 MPa) yield strength and G90 zinc coating, 0.90 oz/ft² (0.27 kg/M²).

Posts: Galvanized 1-1/2" square steel tubular members having a 45,000 psi (310 MPa) yield strength and G90 zinc coating, 0.90 oz/ft². Posts are coated with zinc on the inside and outside. **(Posts that are zinc coated on the outside and painted on the inside are unacceptable).**

Post Caps: 2" height at 1-1/2" diameter formed steel and weather tight closure cap. Provide one ball style post cap for each post.

Decorative Solid Diamond: Galvanized 1/4" square steel tubular members, having a 45,000 psi (310 MPa) yield strength and hot-dip galvanized with a G90 zinc coating, 0.90 oz/ft² (0.27

kg/M²). Diamond are to have an outside diameter of 2-1/2". Diamonds are attached to pickets and to rails at the factory through welding.

Finish: All pickets, rails, posts, fittings and accessories shall be acid washed and cleaned and primed with minimum two coats exterior grade rust inhibitor primer.

BASIS OF PAYMENT

This work shall be measured and paid for at the contract unit price per foot for PLANTER FENCE (SPECIAL), which price shall include all materials, equipment, installation and labor as specified herein.

XX007877 BICYCLE RACKS - FURNISH

DESCRIPTION.

This work shall consist of furnishing and installing BIKE RACK at the locations specified in the Contract plans or as directed by the Engineer.

GENERAL REQUIREMENTS.

Each bike rack will be placed at the location indicated in the plans. The locations will be field marked and verified for approval by the Engineer.

ASSEMBLY.

Anchor bolts must be located with assembled bike rack in place. Bike rack must be mounted as detailed in the plans. Comply with manufacturer's written installation instructions, unless more stringent requirements are indicated. Complete field assembly of bicycle racks, where required.

MATERIALS.

Materials must be as specified in the plans and must be "Black Powercoat" in color, Standard Bicycle Rack by the following manufacturer:

Maglin, Woodstock, ON,

Materials shall be MBR 200 Bike Rack by Maglin,

FINISH – Finish must be galvanized H.S.S. steel tube/aluminum casting. Steel components shall be electro coated prior to power coating.

SUBMITTALS.

Submit manufacturer's technical data for the manufactured product, including certification that each product complies with the specified requirements. In accordance with the Standard Specifications, the Contractor must submit shop drawings for the Engineer's approval showing the Bicycle Rack completely assembled including shop drawings of its component parts.

BASIS OF PAYMENT.

The work under this item will be paid for at the contract unit price per each BICYCLE RACKS-FURNISH which price will include labor, installation, equipment, materials and incidental work necessary to complete the installation as specified.

XX008662 REMOVE EXISTING GAS LIGHT POLE

DESCRIPTION.

This work shall consist of removing existing gas light pole at location as shown on the Plans.

The Contractor shall remove of existing light pole and concrete base, and associated hardware and appurtenance. Existing gas service line shall be capped at the main gas line.

Removed light poles shall be returned to the City of Park Ridge Public Works Department located at 400 Busse Hwy. (ph. 847-318-5241)

All damage resulting from the removal and/or transportation of the lighting luminaire and associated hardware, shall be repaired or replaced in kind.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT.

This work shall be paid for at the contract unit price for each REMOVE EXISTING GAS LIGHT POLE which shall include all material, labor, equipment, and incidentals necessary to complete the work.

IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION (TPG)

Effective: August 1, 2012

Revised: February 1, 2014

In addition to the Contractor's equal employment opportunity affirmative action efforts undertaken as elsewhere required by this Contract, the Contractor is encouraged to participate in the incentive program to provide additional on-the-job training to certified graduates of IDOT funded pre-apprenticeship training programs outlined by this Special Provision.

It is the policy of IDOT to fund IDOT pre-apprenticeship training programs throughout Illinois to provide training and skill-improvement opportunities to assure the increased participation of minority groups, disadvantaged persons and women in all phases of the highway construction industry. The intent of this IDOT Training Program Graduate (TPG) Special Provision is to place certified graduates of these IDOT funded pre-apprentice training programs on IDOT project sites when feasible, and provide the graduates with meaningful on-the-job training intended to lead to journey-level employment. IDOT and its sub-recipients, in carrying out the

responsibilities of a state contract, shall determine which construction contracts shall include "Training Program Graduate Special Provisions." To benefit from the incentives to encourage the participation in the additional on-the-job training under this Training Program Graduate Special Provision, the Contractor shall make every reasonable effort to employ certified graduates of IDOT funded Pre-apprenticeship Training Programs to the extent such persons are available within a reasonable recruitment area.

Participation pursuant to IDOT's requirements by the Contractor or subcontractor in this Training Program Graduate (TPG) Special Provision entitles the Contractor or subcontractor to be reimbursed at \$15.00 per hour for training given a certified TPG on this contract. As approved by the Department, reimbursement will be made for training persons as specified herein. This reimbursement will be made even though the Contractor or subcontractor may receive additional training program funds from other sources for other trainees, provided such other source does not specifically prohibit the Contractor or subcontractor from receiving other reimbursement. For purposes of this Special Provision the Contractor is not relieved of requirements under applicable federal law, the Illinois Prevailing Wage Act, and is not eligible for other training fund reimbursements in addition to the Training Program Graduate (TPG) Special Provision reimbursement.

No payment shall be made to the Contractor if the Contractor or subcontractor fails to provide the required training. It is normally expected that a TPG will begin training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project through completion of the contract, so long as training opportunities exist in his work classification or until he has completed his training program. Should the TPG's employment end in advance of the completion of the contract, the Contractor shall promptly notify the designated IDOT staff member under this Special Provision that the TPG's involvement in the contract has ended and supply a written report of the reason for the end of the involvement, the hours completed by the TPG under the Contract and the number of hours for which the incentive payment provided under this Special Provision will be or has been claimed for the TPG. The Contractor will provide for the maintenance of records and furnish periodic reports documenting its performance under this Special Provision.

METHOD OF MEASUREMENT: The unit of measurement is in hours.

BASIS OF PAYMENT: This work will be paid for at the contract unit price of \$15.00 per hour for certified TRAINEES TRAINING PROGRAM GRADUATE. The estimated total number of hours, unit price and total price have been included in the schedule of prices.

The Contractor shall provide training opportunities aimed at developing full journey worker in the type of trade or job classification involved. The initial number of TPGs for which the incentive is available under this contract is 1. During the course of performance of the Contract the Contractor may seek approval from the Department for additional incentive eligible TPGs. In the event the Contractor subcontracts a portion of the contract work, it shall determine how many, if any, of the TPGs are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this Special Provision. The Contractor shall also insure that this Training Program Graduate Special Provision is made applicable to such subcontract if the TPGs are to be trained by a subcontractor and that the incentive payment is passed on to each subcontractor.

For the Contractor to meet the obligations for participation in this TPG incentive program under this Special Provision, the Department has contracted with several entities to provide screening, tutoring and pre-training to individuals interested in working in the applicable construction classification and has certified those students who have successfully completed the program and are eligible to be TPGs. A designated IDOT staff member, the Director of the Office of Business and Workforce Diversity (OBWD), will be responsible for providing assistance and referrals to the Contractor for the applicable TPGs. For this contract, the Director of OBWD is designated as the responsible IDOT staff member to provide the assistance and referral services related to the placement for this Special Provision. For purposes of this Contract, contacting the Director of OBWD and interviewing each candidate he/she recommends constitutes reasonable recruitment.

Prior to commencing construction, the Contractor shall submit to the Department for approval the TPGs to be trained in each selected classification. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. No employee shall be employed as a TPG in any classification in which he/she has successfully completed a training course leading to journeyman status or in which he/she has been employed as a journeyman. Notwithstanding the on-the-job training purpose of this TPG Special Provision, some offsite training is permissible as long as the offsite training is an integral part of the work of the contract and does not comprise a significant part of the overall training.

Training and upgrading of TPGs of IDOT pre-apprentice training programs is intended to move said TPGs toward journeyman status and is the primary objective of this Training Program Graduate Special Provision. Accordingly, the Contractor shall make every effort to enroll TPGs by recruitment through the IDOT funded TPG programs to the extent such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps that it has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance and entitled to the Training Program Graduate Special Provision \$15.00 an hour incentive.

The Contractor or subcontractor shall provide each TPG with a certificate showing the type and length of training satisfactorily completed.

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:

The entities listed above and their officers, employees, and agents shall be indemnified and held harmless in accordance with Article 107.26.



Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Uncontaminated Soil Certification by Licensed Professional Engineer or Licensed Professional Geologist for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-663

Revised in accordance with 35 Ill. Adm. Code 1100, as amended by PCB R2012-009 (eff. Aug. 27, 2012)

This certification form is to be used by professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i) is uncontaminated soil and (ii) is within a pH range of 6.26 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris (CCDD) fill operations or uncontaminated soil fill operations.

I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: FAU 3524 / US Route 14 (Northwest Highway) Office Phone Number, if available: _____

Physical Site Location (address, including number and street): 3392-5 (1 S. NW Hwy), 3392-6 (6-12 S. NW Hwy), 3392-9 (25-27 S. NW Hwy), 3392-10 (31-39 S. NW Hwy), 3392-14 (112-116 S. NW Hwy), 3392-19 (140 S. NW Hwy), 3392-21 (205 S. NW Hwy).

City: Park Ridge State: IL Zip Code: 60068

County: Cook Township: T41N

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 42.010064 Longitude: -87.827644

(Decimal Degrees) (-Decimal Degrees)

Identify how the lat/long data were determined:

GPS Map Interpolation Photo Interpolation Survey Other

ISGS Public Land Survey System - Approximate Center of multiple addresses

IEPA Site Number(s), if assigned: BOL: _____ BOW: _____ BOA: _____

II. Owner/Operator Information for Source Site

Site Owner

Site Operator

Name: Illinois Dept. of Transportation, District 1

Name: Illinois Dept. of Transportation, District 1

Street Address: 201 W Center Court

Street Address: 201 W Center Court

PO Box: _____

PO Box: _____

City: Schaumburg State: IL

City: Schaumburg State: IL

Zip Code: 60196 Phone: 847-705-4101

Zip Code: 60196 Phone: 847-705-4101

Contact: Sam Mead

Contact: Sam Mead

Email, if available: Sam.Mead@illinois.gov

Email, if available: Sam.Mead@illinois.gov

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed \$50,000 for the violation and an additional civil penalty of not to exceed \$10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

Project Name: FAU 3524 / US Route 14 (Northwest Highway)

Latitude: 42.010064 Longitude: -87.827644

Uncontaminated Site Certification

III. Basis for Certification and Attachments

For each item listed below, reference the attachments to this form that provide the required information.

- a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a):

Refer to Figure 4-1.1 in the Final PSI Report and boring 3392-5-02 (Sta 301+65 to Sta 302+25), 3392-6-01 (Sta 301+13 to Sta 301+65), 3392-9-01 (Sta 303+75 to Sta 304+30), 3392-10-01 (Sta 304+80 to Sta 305+40), 3392-14-01 (Sta 307+75 to Sta 308+20), 3392-19-02 (Sta 311+25 to Sta 311+75), and 3392-21-01 (Sta 311+75 to Sta 312+25).

- 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]:

Refer to Tables 4-2 and 4-3 in the Final PSI Report for results summary and First Environmental Laboratories, Inc. laboratory report #17-4858 and #17-4885. Site specific table of results is attached to this form.

IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist

I, Jeremy J. Reynolds, P.G. (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. In addition, I certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. All necessary documentation is attached.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))


Company Name: Huff & Huff, Inc. / GZA GeoEnvironmental, Inc.

Street Address: 915 Harger Road, Suite 330

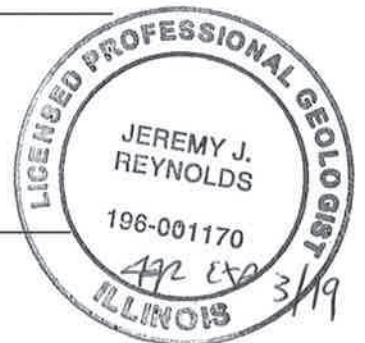
City: Oak Brook State: IL Zip Code: 60523

Phone: 630-684-9100

Jeremy J. Reynolds, P.G.
Printed Name:


Licensed Professional Engineer or
Licensed Professional Geologist Signature:

10/18/17
Date:



P.E. or L.P.G. Seal:

ADJUSTING FRAMES AND GRATES (BDE)

Effective: April 1, 2017

Add the following to Article 602.02 of the Standard Specifications:

- “(s) High Density Expanded Polystyrene Adjusting Rings
with Polyurea Coating (Note 4) 1043.04
(t) Expanded Polypropylene (EPP) Adjusting Rings (Note 5) 1043.05

Note 4. High density expanded polystyrene adjusting rings with polyurea coating shall meet the design load requirements of AASHTO HS20/25. The rings may be used to adjust the frames and grates of drainage and utility structures up to a maximum of 6 in. (150 mm). They shall be installed and sealed underneath the frames according to the manufacturer’s specifications.

Note 5. Riser rings fabricated from EPP may be used to adjust the frames and grates of drainage and utility structures up to a maximum of 6 in. (150 mm). An adhesive meeting ASTM C 920, Type S, Grade N5, Class 25 shall be used with EPP adjustment rings. The top ring of the adjustment stack shall be a finish ring with grooves on the lower surface and flat upper surface. The joints between all manhole adjustment rings and the frame and cover shall be sealed using the approved adhesive. In lieu of the use of an adhesive, an internal or external mechanical frame-chimney seal may be used for watertight installation. EPP adjustment rings shall not be used with heat shrinkable infiltration barriers.”

Add the following to Section 1043 of the Standard Specifications:

“1043.04 High Density Expanded Polystyrene Adjusting Rings with Polyurea Coating. High density expanded polystyrene adjustment rings with polyurea coating shall be designed and tested to meet or exceed an HS25 wheel load according to the AASHTO Standard Specifications for Highway Bridges (AASHTO M306 HS-25). The raw material suppliers shall provide certifications of quality or testing using the following ASTM standards, and upon request, certify that only virgin material was used in the manufacturing of the expanded polystyrene rings.

Physical Property	Test Standard	Value	
		3.0 lb/cu ft	4.5 lb/cu ft
Compression Resistance at 10% deformation	ASTM D 1621	50 - 70	70 - 90
at 5% deformation		45 - 60	60 - 80
at 2% deformation		15 - 20	20 - 40
Flexural Strength	ASTM D 790	90 - 120	130 - 200
Water Absorption	ASTM D 570	2.0%	1.7%
Coefficient of Linear Expansion	ASTM D 696	2.70E-06 in./in./°F	2.80E-06 in./in./°F
Sheer Strength	ASTM D 732	55	80

Tensile Strength	ASTM D 1623	70 - 90	130 - 140
Water Vapor Transmission	ASTM C 355	0.82 – 0.86 perm – in.	

High density expanded polystyrene adjustment rings with polyurea coating shall have no void areas, cracks, or tears. The actual diameter or length shall not vary more than 0.125 in. (3 mm) from the specified diameter or length. Variations in height are limited to ± 0.063 in. (± 1.6 mm). Variations shall not exceed 0.25 in. (6 mm) from flat (dish, bow, or convoluting edge) or 0.125 in. (3 mm) for bulges or dips in the surface.

1043.05 Expanded Polypropylene (EPP) Adjusting Rings. The EPP adjusting rings shall be manufactured using a high compression molding process to produce a minimum finished density of 7.5 lb/cu ft (120 g/l). The EPP rings shall be made of materials meeting ASTM D 3575 and ASTM D 4819-13. The grade adjustments shall be designed and tested according to the AASHTO Standard Specifications for Highway Bridges (AASHTO M 306 HS-25).

Grade rings shall contain upper and lower keyways (tongue and groove) for proper vertical alignment and sealing. The top ring, for use directly beneath the cast iron frame, shall have keyways (grooves) on the lower surface with a flat upper surface.

Adhesive or sealant used for watertight installation of the manhole grade adjustment rings shall meet ASTM C 920, Type S, Grade NS, Class 25, Uses NT, T, M, G, A, and O.

EPP adjustment rings shall have no void areas, cracks, or tears. The actual diameter or length shall not vary more than 0.125 in. (3 mm) from the specified diameter or length. Variations in height are limited to ± 0.063 in. (± 1.6 mm). Variations shall not exceed 0.25 in. (6 mm) from flat (dish, bow, or convoluting edge) or 0.125 in. (3 mm) for bulges or dips in the surface.”

80382

BUTT JOINTS (BDE)

Effective: July 1, 2016

Add the following to Article 406.08 of the Standard Specifications.

“(c) Temporary Plastic Ramps. Temporary plastic ramps shall be made of high density polyethylene meeting the properties listed below. Temporary plastic ramps shall only be used on roadways with permanent posted speeds of 55 mph or less. The ramps shall have a minimum taper rate of 1:30 (V:H). The leading edge of the plastic ramp shall have a maximum thickness of 1/4 in. (6 mm) and the trailing edge shall match the height of the adjacent pavement \pm 1/4 in. (\pm 6 mm).

The ramp will be accepted by certification. The Contractor shall furnish a certification from the manufacturer stating the temporary plastic ramp meets the following requirements.

Physical Property	Test Method	Requirement
Melt Index	ASTM D 1238	8.2 g/10 minutes
Density	ASTM D 1505	0.965 g/cc
Tensile Strength @ Break	ASTM D 638	2223 psi (15 MPa)
Tensile Strength @ Yield	ASTM D 638	4110 psi (28 MPa)
Elongation @ Yield ^{1/} , percent	ASTM D 638	7.3 min.
Durometer Hardness, Shore D	ASTM D 2240	65
Heat Deflection Temperature, 66 psi	ASTM D 648	176 °F (80 °C)
Low Temperature Brittleness, F ₅₀	ASTM D 746	<-105 °F (<-76 °C)

1/ Crosshead speed -2 in./minute

The temporary plastic ramps shall be installed according to the manufacturer's specifications and fastened with anchors meeting the manufacturer's recommendations. Temporary plastic ramps that fail to stay in place or create a traffic hazard shall be replaced immediately with temporary HMA ramps at the Contractor's expense.”

80366

COMPENSABLE DELAY COSTS (BDE)

Effective: June 2, 2017

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 working day contracts the payment will be made according to Article 109.04. For completion date contracts, an adjustment will be determined as follows.

Extended Traffic Control occurs between April 1 and November 30:

$$\text{ETCP Adjustment (\$)} = \text{TE} \times (\% / 100 \times \text{CUP} / \text{OCT})$$

Extended Traffic Control occurs between December 1 and March 31:

$$\text{ETCP Adjustment (\$)} = \text{TE} \times 1.5 (\% / 100 \times \text{CUP} / \text{OCT})$$

Where: TE = Duration of approved time extension in calendar days.

% = Percent maintenance for the traffic control, % (see table below).

CUP = Contract unit price for the traffic control pay item in place during the delay.

OCT = Original contract time in calendar days.

Original Contract Amount	Percent Maintenance
Up to \$2,000,000	65%
\$2,000,000 to \$10,000,000	75%
\$10,000,000 to \$20,000,000	85%
Over \$20,000,000	90%

When an ETCP 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."

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 ^{1/}	600-749	2002
	750 and up	2006
June 1, 2011 ^{2/}	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006
June 1, 2012 ^{2/}	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: July 2, 2016

FEDERAL OBLIGATION. The Department of Transportation, as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR Part 26 apply to this contract concerning the utilization of disadvantaged business enterprises. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified by the Department in accordance with the requirements of 49 CFR Part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory.

STATE OBLIGATION. This Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. When this Special Provision is used to satisfy state law requirements on 100 percent state-funded contracts, the federal government has no involvement in such contracts (not a federal-aid contract) and no responsibility to oversee the implementation of this Special Provision by the Department on those contracts. DBE participation on 100 percent state-funded contracts will not be credited toward fulfilling the Department's annual overall DBE goal required by the US Department of Transportation to comply with the federal DBE program requirements.

CONTRACTOR ASSURANCE. The Contractor makes the following assurance and agrees to include the assurance in each subcontract that the Contractor signs with a subcontractor.

The Contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of contracts funded in whole or in part with federal or state funds. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, 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 that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. The determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform 15.00 % of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

- (a) The bidder documents that enough DBE participation has been obtained to meet the goal or,
- (b) The bidder documents that a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

DBE LOCATOR REFERENCES. Bidders shall consult the IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217) 785-4611, or by visiting the Department's website at:

<http://www.idot.illinois.gov/doing-business/certifications/disadvantaged-business-enterprise-certification/il-ucp-directory/index>.

BIDDING PROCEDURES. Compliance with this Special Provision is required prior to the award of the contract and the failure of the low bidder to comply will render the bid not responsive.

In order to assure the timely award of the contract, the low bidder shall submit:

- (a) The bidder shall submit a DBE Utilization Plan on completed Department forms SBE 2025 and 2026.
 - (1) The final Utilization Plan must be submitted within five calendar days after the date of the letting in accordance with subsection (a)(2) of Bidding Procedures herein.

- (2) To meet the five day requirement, the bidder may send the Utilization Plan electronically by scanning and sending to DOT.DBE.UP@illinois.gov or faxing to (217) 785-1524. The subject line must include the bid Item Number and the Letting date. The Utilization Plan should be sent as one .pdf file, rather than multiple files and emails for the same Item Number. It is the responsibility of the bidder to obtain confirmation of email or fax delivery.

Alternatively, the Utilization Plan may be sent by certified mail or delivery service within the five calendar day period. If a question arises concerning the mailing date of a Utilization Plan, the mailing date will be established by the U.S. Postal Service postmark on the certified mail receipt from the U.S. Postal Service or the receipt issued by a delivery service when the Utilization Plan is received by the Department. It is the responsibility of the bidder to ensure the postmark or receipt date is affixed within the five days if the bidder intends to rely upon mailing or delivery to satisfy the submission day requirement. The Utilization Plan is to be submitted to:

Illinois Department of Transportation
Bureau of Small Business Enterprises
Contract Compliance Section
2300 South Dirksen Parkway, Room 319
Springfield, Illinois 62764

The Department will not accept a Utilization Plan if it does not meet the five day submittal requirement and the bid will be declared not responsive. In the event the bid is declared not responsive due to a failure to submit a Utilization Plan or failure to comply with the bidding procedures set forth herein, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty, and may deny authorization to bid the project if re-advertised for bids. The Department reserves the right to invite any other bidder to submit a Utilization Plan at any time for award consideration.

- (b) The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number, and telefax number of a responsible official of the bidder designated for purposes of notification of Utilization Plan approval or disapproval under the procedures of this Special Provision.
- (c) The Utilization Plan shall include a DBE Participation Commitment Statement, Department form SBE 2025, for each DBE proposed for the performance of work to achieve the contract goal. For bidding purposes, submission of the completed SBE 2025 forms, signed by the DBEs and scanned or faxed to the bidder will be acceptable as long as the original is available and provided upon request. All elements of information indicated on the said form shall be provided, including but not limited to the following:

- (1) The names and addresses of DBE firms that will participate in the contract;
- (2) A description, including pay item numbers, of the work each DBE will perform;
- (3) The dollar amount of the participation of each DBE firm participating. The dollar amount of participation for identified work shall specifically state the quantity, unit price, and total subcontract price for the work to be completed by the DBE. If partial pay items are to be performed by the DBE, indicate the portion of each item, a unit price where appropriate and the subcontract price amount;
- (4) DBE Participation Commitment Statements, form SBE 2025, signed by the bidder and each participating DBE firm documenting the commitment to use the DBE subcontractors whose participation is submitted to meet the contract goal;
- (5) If the bidder is a joint venture comprised of DBE companies and non-DBE companies, the Utilization Plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s); and,
- (6) If the contract goal is not met, evidence of good faith efforts; 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.

GOOD FAITH EFFORT PROCEDURES. The contract will not be awarded until the Utilization Plan submitted by the apparent successful bidder is approved. All information submitted by the bidder must be complete, accurate and adequately document that enough DBE participation has been obtained or document that good faith efforts of the bidder, in the event enough DBE participation has not been obtained, before the Department will commit to the performance of the contract by the bidder. The Utilization Plan will be approved by the Department if the Utilization Plan documents sufficient commercially useful DBE work to meet the contract goal or the bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A. The Utilization Plan will not be approved by the Department if the Utilization Plan does not document sufficient DBE participation to meet the contract goal unless the apparent successful bidder documented in the Utilization Plan that it made a good faith effort to meet the goal. This means that the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which, by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not successful. The Department will consider the quality, quantity, and intensity of the kinds of efforts that the bidder has made. Mere *pro forma* efforts, in other words, efforts done as a matter of form, are not good faith efforts; rather, the bidder is expected to have taken genuine efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

- (a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors

are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases, and will be considered by the Department.

- (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.
- (2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime Contractor might otherwise prefer to perform these work items with its own forces.
- (3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- (4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.
 - b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable. In accordance with subsection (c)(6) of 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 that the apparent successful bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided that it is otherwise eligible for award. If the Department determines that the bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification shall include a statement of reasons for the determination. 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 in order to cure the deficiency.
- (c) The bidder may request administrative reconsideration of a determination adverse to the bidder within the five working days after the receipt of the notification date of the determination by delivering the request to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764 (Telefax: (217) 785-1524). Deposit of the request in the United States mail on or before the fifth business day shall not be deemed delivery. The determination shall become final if a request is not made and delivered. A request may provide additional written documentation or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be forwarded to the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person in order to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for consideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration

Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

CALCULATING DBE PARTICIPATION. The Utilization Plan values represent work anticipated to be performed and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE companies. In addition, a DBE must perform a commercially useful function on the contract to be counted. A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR Part 26.55(c) on questions of commercially useful functions as it affects the work. Specific counting guidelines are provided in 49 CFR Part 26.55, the provisions of which govern over the summary contained herein.

- (a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.
- (b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.
- (c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the prime Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.
- (d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:
 - (1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
 - (2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission is receives as a result of the lease arrangement.
- (e) DBE as a material supplier:

- (1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
- (2) 100 percent goal credit for the cost of materials of supplies obtained from a DBE manufacturer.
- (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a 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 submitted to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764. Telephone number (217) 785-4611. Telefax number (217) 785-1524.
- (b) 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, then a new Request for Approval of Subcontractor shall not be required. However, the Contractor must document efforts to assure that the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.

- (c) SUBCONTRACT. The Contractor must provide DBE subcontracts to IDOT 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) That the replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or
 - (2) That the DBE is aware that its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or
 - (3) That the DBE is not capable of performing the replacement work or has declined to perform the work at a reasonable competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.
- (e) TERMINATION AND REPLACEMENT PROCEDURES. The Contractor shall not terminate or replace a DBE 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 prime contractor;
- (3) The listed DBE subcontractor fails or refuses to meet the prime Contractor's reasonable, nondiscriminatory bond requirements;
- (4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law.
- (6) You have determined that the listed DBE subcontractor is not a responsible contractor;
- (7) The listed DBE subcontractor voluntarily withdraws from the projects and provides to you written notice of its withdrawal;
- (8) The listed DBE is ineligible to receive DBE credit for the type of work required;
- (9) A DBE owner dies or becomes disabled with the result that the listed DBE 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 prime Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the prime Contractor can self-perform the work for which the DBE contractor was engaged or so that the prime Contractor can substitute another DBE or non-DBE contractor after contract award.

When a DBE is terminated, or fails to complete its work on the Contract for any reason the Contractor shall make a good faith effort to find another DBE to substitute for the original DBE to perform at least the same amount of work under the contract as the terminated DBE to the extent needed to meet the established Contract goal. 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 shall provide a written determination to the Contractor stating whether or not good faith efforts have been demonstrated.

- (f) PAYMENT RECORDS. The Contractor shall maintain a record of payments for work performed to the DBE participants. The records shall be made available to the Department for inspection upon request. After the performance of the final item of work or delivery of material by a DBE and final payment therefore to the DBE by the Contractor, but not later than thirty calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Agreement on Department form SBE 2115 to the 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 that the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the 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.

EQUIPMENT PARKING AND STORAGE (BDE)

Effective: November 1, 2017

Replace the first paragraph of Article 701.11 of the Standard Specifications with the following.

“701.11 Equipment Parking and Storage. During working hours, all vehicles and/or nonoperating equipment which are parked, two hours or less, shall be parked at least 8 ft (2.5 m) from the open traffic lane. For other periods of time during working and for all nonworking hours, all vehicles, materials, and equipment shall be parked or stored as follows.

- (a) When the project has adequate right-of-way, vehicles, materials, and equipment shall be located a minimum of 30 ft (9 m) from the pavement.
- (b) When adequate right-of-way does not exist, vehicles, materials, and equipment shall be located a minimum of 15 ft (4.5 m) from the edge of any pavement open to traffic.
- (c) Behind temporary concrete barrier, vehicles, materials, and equipment shall be located a minimum of 24 in. (600 mm) behind free standing barrier or a minimum of 6 in. (150 mm) behind barrier that is either pinned or restrained according to Article 704.04. The 24 in. or 6 in. measurement shall be from the base of the non-traffic side of the barrier.
- (d) Behind other man-made or natural barriers meeting the approval of the Engineer.”

80388

HOT-MIX ASPHALT – TACK COAT (BDE)

Effective: November 1, 2016

Revise Article 1032.06(a) of the Standard Specifications to read:

“(a) Anionic Emulsified Asphalt. Anionic emulsified asphalts shall be according to AASHTO M 140. SS-1h emulsions used as a tack coat shall have the cement mixing test waived.”

80376

LIGHTS ON BARRICADES (BDE)

Effective: January 1, 2018

Revise Article 701.16 of the Standard Specifications to read:

“701.16 Lights. Lights shall be used on devices as required in the plans, the traffic control plan, and the following table.

Circumstance	Lights Required
Daylight operations	None
First two warning signs on each approach to the work involving a nighttime lane closure and “ROUGH GROOVED SURFACE” (W8-I107) signs	Flashing mono-directional lights
Devices delineating isolated obstacles, excavations, or hazards at night (Does not apply to patching)	Flashing bi-directional lights
Devices delineating obstacles, excavations, or hazards exceeding 100 ft (30 m) in length at night (Does not apply to widening)	Steady burn bi-directional lights
Channelizing devices for nighttime lane closures on two-lane roads	None
Channelizing devices for nighttime lane closures on multi-lane roads	None
Channelizing devices for nighttime lane closures on multi-lane roads separating opposing directions of traffic	None
Channelizing devices for nighttime along lane shifts on multilane roads	Steady burn mono-directional lights
Channelizing devices for night time along lane shifts on two lane roads	Steady burn bi-directional lights
Devices in nighttime lane closure tapers on Standards 701316 and 701321	Steady burn bi-directional lights
Devices in nighttime lane closure tapers	Steady burn mono-directional lights
Devices delineating a widening trench	None
Devices delineating patches at night on roadways with an ADT less than 25,000	None
Devices delineating patches at night on roadways with an ADT of 25,000 or more	None

Batteries for the lights shall be replaced on a group basis at such times as may be specified by the Engineer.”

Delete the fourth sentence of the first paragraph of Article 701.17(c)(2) of the Standard Specifications.

Revise the first paragraph of Article 603.07 of the Standard Specifications to read:

“603.07 Protection Under Traffic. After the casting has been adjusted and Class SI concrete has been placed, the work shall be protected by a barricade for at least 72 hours.”

80392

PAVEMENT MARKING REMOVAL (BDE)

Effective: July 1, 2016

Revise Article 783.02 of the Standard Specifications to read:

“783.02 Equipment. Equipment shall be according to the following.

Item	Article/Section
(a) Grinders (Note 1)	
(b) Water Blaster with Vacuum Recovery	1101.12

Note 1. Grinding equipment shall be approved by the Engineer.”

Revise the first paragraph of Article 783.03 of the Standard Specifications to read:

“783.03 Removal of Conflicting Markings. Existing pavement markings that conflict with revised traffic patterns shall be removed. If darkness or inclement weather prohibits the removal operations, such operations shall be resumed the next morning or when weather permits. In the event of removal equipment failure, such equipment shall be repaired, replaced, or leased so removal operations can be resumed within 24 hours.”

Revise the first and second sentences of the first paragraph of Article 783.03(a) of the Standard Specifications to read:

“The existing pavement markings shall be removed by the method specified and in a manner that does not materially damage the surface or texture of the pavement or surfacing. Small particles of tightly adhering existing markings may remain in place, if in the opinion of the Engineer, complete removal of the small particles will result in pavement surface damage.”

Revise the first paragraph of Article 783.04 of the Standard Specifications to read:

“783.04 Cleaning. The roadway surface shall be cleaned of debris or any other deleterious material by the use of compressed air or water blast.”

Revise the first paragraph of Article 783.06 of the Standard Specifications to read:

“783.06 Basis of Payment. This work will be paid for at the contract unit price per each for RAISED REFLECTIVE PAVEMENT MARKER REMOVAL, or at the contract unit price per square foot (square meter) for PAVEMENT MARKING REMOVAL – GRINDING and/or PAVEMENT MARKING REMOVAL – WATER BLASTING.”

Delete Article 1101.13 from the Standard Specifications.

80371

PAYMENTS TO SUBCONTRACTORS (BDE)

Effective: November 2, 2017

Add the following to the end of the fourth paragraph of Article 109.11 of the Standard Specifications:

“If reasonable cause is asserted, written notice shall be provided to the applicable subcontractor and/or material supplier and the Engineer within five days of the Contractor receiving payment. The written notice shall identify the contract number, the subcontract or material purchase agreement, a detailed reason for refusal, the value of payment being withheld, and the specific remedial actions required of the subcontractor and/or material supplier so that payment can be made.”

80390

PORTLAND CEMENT CONCRETE (BDE)

Effective: November 1, 2017

Revise the Air Content % of Class PP Concrete in Table 1 Classes of Concrete and Mix Design Criteria in Article 1020.04 of the Standard Specifications to read:

"TABLE 1. CLASSES OF CONCRETE AND MIX DESIGN CRITERIA		
Class of Conc.	Use	Air Content %
PP	Pavement Patching Bridge Deck Patching (10)	
	PP-1	4.0 - 8.0"
	PP-2	
	PP-3	
	PP-4	
	PP-5	

Revise Note (4) at the end of Table 1 Classes of Concrete and Mix Design Criteria in Article 1020.04 of the Standard Specifications to read:

“(4) For all classes of concrete, the maximum slump may be increased to 7 in (175 mm) when a high range water-reducing admixture is used. For Class SC, the maximum slump may be increased to 8 in. (200 mm). For Class PS, the maximum slump may be increased to 8 1/2 in. (215 mm) if the high range water-reducing admixture is the polycarboxylate type.”

80389

PORTLAND CEMENT CONCRETE SIDEWALK (BDE)

Effective: August 1, 2017

Revise the first paragraph of Article 424.12 of the Standard Specifications to read:

“424.12 Method of Measurement. This work will be measured for payment in place and the area computed in square feet (square meters). Curb ramps, including side curbs and side flares, will be measured for payment as sidewalk. No deduction will be made for detectable warnings located within the ramp.”

80385

PROGRESS PAYMENTS (BDE)

Effective: November 2, 2013

Revise Article 109.07(a) of the Standard Specifications to read:

“(a) Progress Payments. At least once each month, the Engineer will make a written estimate of the quantity of work performed in accordance with the contract, and the value thereof at the contract unit prices. The amount of the estimate approved as due for payment will be vouchered by the Department and presented to the State Comptroller for payment. No amount less than \$1000.00 will be approved for payment other than the final payment.

Progress payments may be reduced by liens filed pursuant to Section 23(c) of the Mechanics' Lien Act, 770 ILCS 60/23(c).

If a Contractor or subcontractor has defaulted on a loan issued under the Department's Disadvantaged Business Revolving Loan Program (20 ILCS 2705/2705-610), progress payments may be reduced pursuant to the terms of that loan agreement. In such cases, the amount of the estimate related to the work performed by the Contractor or subcontractor, in default of the loan agreement, will be offset, in whole or in part, and vouchered by the Department to the Working Capital Revolving Fund or designated escrow account. Payment for the work shall be considered as issued and received by the Contractor or subcontractor on the date of the offset voucher. Further, the amount of the offset voucher shall be a credit against the Department's obligation to pay the Contractor, the Contractor's obligation to pay the subcontractor, and the Contractor's or subcontractor's total loan indebtedness to the Department. The offset shall continue until such time as the entire loan indebtedness is satisfied. The Department will notify the Contractor and Fund Control Agent in a timely manner of such offset. The Contractor or subcontractor shall not be entitled to additional payment in consideration of the offset.

The failure to perform any requirement, obligation, or term of the contract by the Contractor shall be reason for withholding any progress payments until the Department determines that compliance has been achieved.”

80328

SUBCONTRACTOR MOBILILATION PAYMENTS (BDE)

Effective: November 2, 2017

Replace the second paragraph of Article 109.12 of the Standard Specifications with the following:

“This mobilization payment shall be made at least 14 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

TRAINING SPECIAL PROVISIONS (BDE) This Training Special Provision supersedes Section 7b of the Special Provision entitled “Specific Equal Employment Opportunity Responsibilities,” and is in implementation of 23 U.S.C. 140(a).

As part of the contractor’s equal employment opportunity affirmative action program, training shall be provided as follows:

The contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be **1** . In the event the contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the contractor’s needs and the availability of journeymen in the various classifications within the reasonable area of recruitment. Prior to commencing construction, the contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the contractor shall specify the starting time for training in each of the classifications. The contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g. by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the contractor’s records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the contractor and approved by the Illinois Department of Transportation and the Federal Highway Administration. The Illinois Department of Transportation and the Federal Highway Administration shall approve a program, if it is reasonably calculated to meet the equal employment opportunity obligations of the contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved by not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirement of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The contractor shall furnish the trainee a copy of the program he will follow in providing the training. The contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

METHOD OF MEASUREMENT The unit of measurement is in hours.

BASIS OF PAYMENT This work will be paid for at the contract unit price of 80 cents per hour for TRAINEES. The estimated total number of hours, unit price and total price have been included in the schedule of prices.

20338

WARM MIX ASPHALT (BDE)

Effective: January 1, 2012

Revised: April 1, 2016

Description. This work shall consist of designing, producing and constructing Warm Mix Asphalt (WMA) in lieu of Hot Mix Asphalt (HMA) at the Contractor's option. Work shall be according to Sections 406, 407, 408, 1030, and 1102 of the Standard Specifications, except as modified herein. In addition, any references to HMA in the Standard Specifications, or the special provisions shall be construed to include WMA.

WMA is an asphalt mixture which can be produced at temperatures lower than allowed for HMA utilizing approved WMA technologies. WMA technologies are defined as the use of additives or processes which allow a reduction in the temperatures at which HMA mixes are produced and placed. WMA is produced by the use of additives, a water foaming process, or combination of both. Additives include minerals, chemicals or organics incorporated into the asphalt binder stream in a dedicated delivery system. The process of foaming injects water into the asphalt binder stream, just prior to incorporation of the asphalt binder with the aggregate.

Approved WMA technologies may also be used in HMA provided all the requirements specified herein, with the exception of temperature, are met. However, asphalt mixtures produced at temperatures in excess of 275 °F (135 °C) will not be considered WMA when determining the grade reduction of the virgin asphalt binder grade.

Equipment.

Revise the first paragraph of Article 1102.01 of the Standard Specifications to read:

"1102.01 Hot-Mix Asphalt Plant. The hot-mix asphalt (HMA) plant shall be the batch-type, continuous-type, or dryer drum plant. The plants shall be evaluated for prequalification rating and approval to produce HMA according to the current Bureau of Materials and Physical Research Policy Memorandum, "Approval of Hot-Mix Asphalt Plants and Equipment". Once approved, the Contractor shall notify the Bureau of Materials and Physical Research to obtain approval of all plant modifications. The plants shall not be used to produce mixtures concurrently for more than one project or for private work unless permission is granted in writing by the Engineer. The plant units shall be so designed, coordinated and operated that they will function properly and produce HMA having uniform temperatures and compositions within the tolerances specified. The plant units shall meet the following requirements."

Add the following to Article 1102.01(a) of the Standard Specifications.

"(11) Equipment for Warm Mix Technologies.

- a. Foaming. Metering equipment for foamed asphalt shall have an accuracy of ± 2 percent of the actual water metered. The foaming control system shall be electronically interfaced with the asphalt binder meter.

- b. Additives. Additives shall be introduced into the plant according to the supplier's recommendations and shall be approved by the Engineer. The system for introducing the WMA additive shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes."

Mix Design Verification.

Add the following to Article 1030.04 of the Standard Specifications.

"(e) Warm Mix Technologies.

- (1) Foaming. WMA mix design verification will not be required when foaming technology is used alone (without WMA additives). However, the foaming technology shall only be used on HMA designs previously approved by the Department.
- (2) Additives. WMA mix designs utilizing additives shall be submitted to the Engineer for mix design verification."

Construction Requirements.

Revise the second paragraph of Article 406.06(b)(1) of the Standard Specifications to read:

"The HMA shall be delivered at a temperature of 250 to 350 °F (120 to 175 °C).
WMA shall be delivered at a minimum temperature of 215 °F (102 °C)."

Basis of Payment.

This work will be paid at the contract unit price bid for the HMA pay items involved. Anti-strip will not be paid for separately, but shall be considered as included in the cost of the work.

80288

WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012

| Revised: April 2, 2015

| 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 Monday through Sunday 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

WORKING DAYS (BDE)

Effective: January 1, 2002

The Contractor shall complete the work within **70** working days.

80071

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor

performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection

for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#).

The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the

employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates

(expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular

programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this

section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the 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.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential

that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction.

The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general 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 grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal

Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general 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 grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension,

continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

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.

**MINIMUM WAGES FOR FEDERAL AND FEDERALLY
ASSISTED CONSTRUCTION CONTRACTS**

This project is funded, in part, with Federal-aid funds and, as such, is subject to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Sta. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in a 29 CFR Part 1, Appendix A, as well as such additional statutes as may from time to time be enacted containing provisions for the payment of wages determined to be prevailing by the Secretary of Labor in accordance with the Davis-Bacon Act and pursuant to the provisions of 29 CFR Part 1. The prevailing rates and fringe benefits shown in the General Wage Determination Decisions issued by the U.S. Department of Labor shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

General Wage Determination Decisions, modifications and supersedes decisions thereto are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision, together with any modifications issued, must be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable DBRA Federal prevailing wage law and 29 CFR Part 5. The wage rates and fringe benefits contained in the General Wage Determination Decision shall be the minimum paid by contractors and subcontractors to laborers and mechanics.