

040

Letting November 6, 2026

Notice to Bidders, Specifications and Proposal



**Illinois Department
of Transportation**

**Contract No. 64E09
WINNEBAGO County
Section 77BR
Route FAP 505
Project BR-MJPV(881)
District 2 Construction Funds**

Prepared by

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Checked by

(Printed by authority of the State of Illinois)



**Illinois Department
of Transportation**

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 12:00 p.m. November 6, 2026 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. 64E09
WINNEBAGO County
Section 77BR
Project BR-MJPV(881)
Route FAP 505
District 2 Construction Funds**

Removal and replacement of the structure (SN 101-0109) carrying IL 75 over the Rock River in Rockton.

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

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

By Order of the
Illinois Department of Transportation

Gia Biagi,
Secretary

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 FOR
 SUPPLEMENTAL SPECIFICATIONS
 AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2026

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

ERRATA Standard Specifications for Road and Bridge Construction (Adopted 1-1-22) (Revised 1-1-26)

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RECURRING SPECIAL PROVISIONS

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STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction, Adopted January 1, 2022", the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways", and the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the "Supplemental Specifications and Recurring Special Provisions" indicated on the Check Sheet included herein, which apply to and govern the construction of FAP Route 505 (IL 75), Project BR-MJPV(881), Section 77B-1, Winnebago County, Contract No. 64E09 and in case of conflict with any part, or parts, of said Specifications, the said Special Provisions shall take precedence and shall govern.

LOCATION OF WORK

The project is located along FAP Route 505 (IL 75) in Rockton, from River Street to Hawick Street while going over the Rock River; in Winnebago County.

The net length of the project measures approximately 733.94 feet (0.139 miles) along the centerline of FAP Route 505 (IL 75).

DESCRIPTION OF WORK

The proposed improvements consist of complete bridge replacement of the existing structure SN 101-0109 with a new structure SN 101-0230 that will carry two lanes of traffic (one in each direction) along with a sidewalk on the west side and a new multi-use path on the east side. Other improvements include roadway reconstruction approaching both sides of the new bridge, addition of multi-use path on the east side of IL 75, drainage improvements, lighting improvements, pavement marking & signing, erosion control & landscaping, guardrail improvements, and other miscellaneous work as necessary.

TRAFFIC CONTROL PLAN

Effective: January 14, 1999

Revised: January 13, 2017

Standards:

701006	701011	701301	701311	701501	701701
701801	701901				

Details:

Detour Route
District Standard WORK ZONE SIGN DETAILS (DIST STD. 34.1)
District Standard TRAFFIC CONTROL FOR ROAD CLOSURE (DIST STD. 40.1)

Signs:

When covering existing Department signs, no tape shall be used on the reflective portion of the sign. Contact the District sign shop for covering techniques.

Any plates or direct applied sheeting used to alter signs shall have the same sheeting as the base sign.

No more than one kind of alteration shall be used to alter a sign.

Any post stubs without a sign in place and visible shall have a reflector placed on each post.

Devices:

A minimum of 3 drums spaced at 4 feet shall be placed at each return when the sideroad is open.

Flaggers:

Flaggers shall comply with all requirements and signaling methods contained in the Department's "Traffic Control Field Manual" current at the time of letting. The flagger equipment listed for flaggers employed by the Illinois Department of Transportation shall apply to all flaggers

In addition to the flaggers shown on applicable standards, on major sideroads, flaggers shall be required on all legs of the intersection. Major sideroads for this project shall be River Street and Hawick Street.

Pavement Marking:

All temporary pavement markings that will be operational during the winter months (December through March) shall be paint.

Short term pavement markings on a milled surface shall be paint.

District Standard Application:

Traffic Control for Road Closure: This work shall be done according to the Road Closure Standard and Section 701 of the Standard Specifications.

The contractor shall provide information warning signs for oversized loads regarding the road closure. These signs shall be 4' x 8' as shown on the sign design and shall read "NO OVERSIZE-OVERWEIGHT XX MILES AHEAD" and the distance from the cross roads as noted. The contractor shall erect these signs near the intersection of IL 75 and IL 70 (14 MILES AHEAD).

"ROAD CLOSED AHEAD" (W20-3(O)-48) with flasher and the appropriate arrow plate (W1-6(O)-36x18 or W1-7(O)-36x18) shall be required on all side roads within the limits of the mainline "ROAD CLOSED AHEAD" signs.

The Contractor shall notify the Department via email at DOT.D2.TrafficNotice@illinois.gov. **This request shall be submitted a minimum of three weeks (21 days) and no earlier than four weeks (28 days) prior to the anticipated closure date to allow the State adequate time to re-route oversized loads.**

Signing and devices required to close the road, according to the Traffic Control for Road Closure detail and contained herein, shall be the responsibility of the Contractor. Detour signing required to detour traffic to alternate routes shall be the responsibility of the Contractor. The day the detour signing begins, the detour will be in effect when the Contractor has notified the Resident Engineer or personnel on the project. No detour shall be erected on Friday, Saturday or Sunday. The road shall not be closed until the detour signing is completely installed, verified, and ready to accept traffic.

The "ROAD CLOSED" sign on the Type III barricades shall be unobstructed and visible to traffic at all times. No equipment, debris, or other materials shall be stored within 20 feet of the first set of Type III barricades, unless approved by the Engineer.

The Contractor shall not drive around the outside of the Type III barricades, but shall relocate the barricades temporarily for access. When it is necessary for the barricades to be moved for access, the Contractor shall move the devices into the left lane and/or left shoulder area behind barricades that are to remain in place. At no time shall the barricades be turned parallel to traffic flow for access purposes.

If a path becomes evident around the outside of the barricades, the Contractor shall be required to place additional Type III barricades to prevent driving around the existing barricades. Additional barricades shall be included in the cost of applicable Traffic Control Standards

This work shall be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

Road Closure – Closures within Closures: The road closure shall be completed using Type III barricades in compliance with Standards 701901, and signing according to Traffic Control for Road Closure detail. Two flashers shall be installed above each Type III barricade. The "ROAD CLOSED" (R11-2) or "ROAD CLOSED TO THRU TRAFFIC" (R11-4) signs shall be placed as shown in Standard 701901. Flashers shall be installed above all warning signs involving a night time road closure. If a portion of the road is completely closed between a sideroad and any entrances, the roadway will be kept open to local access in the other direction between that closure and the next road.

The Contractor shall be required to notify the Bureau of Project Implementation and affected residents prior to a complete closure.

All cost involved in conforming with this provision shall be considered a part of TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

Maintenance of Traffic:

When the roadway is not closed, the road shall be kept open to one-way traffic at all times during working hours and two-way traffic during non-working hours.

The Contractor shall notify the Village of Rockton, the corresponding Township Commissioner, city municipality, emergency response agencies (i.e.: fire, ambulance, police), school bus companies and the Department of Transportation (Bureau of Project Implementation) regarding any changes in traffic control.

The road shall be closed for reconstruction using the detour from Wagon Wheel Road to IL 2. Access to the residential property at STA 933+73 within the closed section of road shall be provided at all times throughout the duration of the project.

All construction activities shall be halted for the duration of Rockton's Old Settler's Day event typically held the third week of June every year.

TEMPORARY INFORMATION SIGNING

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

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

Construction Requirements. The temporary information signs shall be in place at least one week prior to the beginning of construction activities that impact traffic flow and shall remain in place until the completion of the project.

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

Method of Measurement. This work will be measured for payment in square feet edge to edge (horizontally and vertically). All hardware, posts or skids, supports, bases for ground mounted signs, connections, which are required for mounting these signs will be included as part of this pay item.

Basis of Payment. This work will be paid for at the contract unit price per square foot for TEMPORARY INFORMATION SIGNING.

STATUS OF UTILITIES TO BE ADJUSTED

LIST OF UTILITIES TO BE ADJUSTED

Type	Utility	Contact	Telephone #	JULIE Member
Telephone	Frontier	Mr. Kalin Hinshaw 112 W. Elm Street Sycamore, IL 60178	815-895-1515	Yes
Gas & Electric	Rock Energy Cooperative	Mr. Rod Magnuson PO Box 126 15229 Willowbrook Rd South Beloit, IL 61808	866-752-4550	Yes
Water & Sewer	Village of Rockton	Mr. Gordy Nygren 110 E. Main Street Rockton, IL 61072	815-624-7600	No
Communications	Charter Communications	Mr. Keith Stewart 1837 Park Avenue Beloit, WI 53511	608-365-3382	Yes
Communications	Kentucky Data Link, Inc.	Mr. James Kustuch 13935 Bishops Drive Brookfield, WI 53005	414-313-9032	No

The above represents the best information of the Department and is only included for the convenience of the bidder. The applicable provisions of Sections 102 and 103, and Articles 105.07 and 107.20 of the Standard Specifications for Road and Bridge Construction shall apply.

If any utility adjustment or removal has not been completed when required by the Contractor's operation, the Contractor should notify the Engineer in writing. A request for an extension of time will be considered to the extent the Contractor's operations were affected.

COMPLETION DATE PLUS WORKING DAYS

Effective: December 29, 2006

Revised: April 22, 2019

Revise Article 108.05(b) of the Standard Specifications to read:

“(b) Completion Date Plus Working Days. When a completion date plus working days is specified, the Contractor shall complete all contract items to safely open all roadways to traffic by 11:59 p.m. on or prior to **November 18th, 2027**, except as specified herein.

The Contractor will be allowed **15 working days** after the completion date for opening the roadway to traffic to complete clean-up work and punch list items. Miscellaneous items may be completed within the working days allowed for clean-up work and punch list items if approved by the Engineer. Temporary lane closures for this work may be allowed at the discretion of the Engineer.”

DETOUR RESTRICTIONS

The IL 75 Closure/Detour shall adhere to the following restrictions

- Start date of the IL 75 Closure/Detour shall be no earlier than February 1st, 2027
- End date of the IL 75 Closure/Detour shall be no later than November 18th, 2027
- The Closure/Detour shall be continuous in duration, and not intermittent
- Under no circumstances shall the IL 75 Closure/Detour be allowed to extend over a winter shutdown

COORDINATION WITH ADJACENT AND/OR OVERLAPPING CONTRACTS

This contract abuts and/ or overlaps with other concurrent and future Village of Rockton Contracts as listed below.

Each contract may include work items requiring close coordination between the various Contractors regarding the sequence and timing for execution of work items in accordance with Article 105.08 of the Standards Specifications and as herein noted.

The adjacent and/or overlapping Contracts will be (but not limited to):

- Village of Rockton's recreational bike path along the east side of Old River Rd, and East River St, from University Pkwy to IL75
Contract or Job Number: C-92-024-23
Start Date/Duration: Spring 2027 / 1 year
- Winnebago County's resurfacing of Old River Rd from Roscoe Rd to IL75.
Contract or Job Number: 85800
Start Date/Duration: Spring 2027 / 1 year

Basis of Payment. All expenses incurred by the Contractor by reason of compliance with these requirements shall be considered as included in and completely covered by the contract unit prices for the various items included in the contract.

GRANULAR BACKFILL FOR STRUCTURES

Effective: April 19, 2012

Revised: July 16, 2024

Revise the third sentence of the first paragraph of Article 586.03 of the Specifications to read:

"The backfill volume shall be placed in Department acceptable lift thickness for the full width to be backfilled and shall be compacted to not less than 95 percent of the standard laboratory density."

Delete the fourth sentence of the first paragraph of Article 586.03 of the Specifications.

GUARDRAIL REMOVAL

Effective: August 20, 1990

Revised: April 10, 2014

This work shall be done according to Section 632 of the Standard Specifications except that all removed guardrail will become the property of the Contractor.

This work will be paid for at the contract unit price per Foot for GUARDRAIL REMOVAL, measured from center-to-center of end posts.

PCC AUTOMATIC BATCHING EQUIPMENT

Effective: January 1, 2015

Revised: January 31, 2023

Portland cement concrete provided shall be produced from batch plants that conform to the requirements of Article 1103.03 (a) and (b) of the Standard Specifications for Road and Bridge Construction. Semi-automatic batching will not be allowed.

Plants shall have computerized batching interfaced with a printer. IDOT Producer Number, IDOT Design Number, Concrete Material Code, batch weights, aggregate mixtures, water added, amount of each admixture or additive, and percent variance from design shall be printed for each batch. Tickets shall state the actual water-cement ratio as batched, and the amount of water that can be added to the batch without exceeding the maximum water-cement ratio. Truck delivery tickets are still required as per Article 1020.11(a)(7) of the Standard Specifications.

PCC QC/QA ELECTRONIC REPORTS SUBMITTAL

Effective: January 1, 2015

Revised: January 31, 2023

The Contractor's QC personnel shall be responsible for electronically submitting the following reports to the Department: PRO and IND data for BMPR MI654 "Concrete Air, Slump, and Quantity,"; PRO data for BMPR MI655 "P.C. Concrete Strength," and PRO data for BMPR MI504 "Aggregate Gradation" reports to the Department. The format for the electronic submittals shall be the QMP package reporting program, which will be provided by the Department. Microsoft Excel 2007 or newer and Microsoft Outlook is required for this program which shall be provided by the Contractor.

AVAILABILITY OF ELECTRONIC FILES

Effective 10/16

Revised 1/29/26

Electronic files of this project will be made available to the Contractor after the contract has been awarded. This information will be provided upon request in a Bentley CONNECT Platform software format ONLY. If data is required in other formats, it will be your responsibility to make these conversions. The Contractor shall coordinate obtaining electronic files through the Project Engineer. If there is a conflict between the electronic files and the printed contract plans and documents, the printed contract plans and documents shall take precedence over the electronic files. The Contractor shall accept all risk associated with using the electronic files and shall hold

the Department harmless for any errors or omissions in the electronic files and the data contained therein. Errors or delays resulting from the use of the electronic files by the Contractor shall not result in an extension of time for any interim or final completion date or shall not be considered cause for additional compensation. The Contractor shall not use, share, or distribute these electronic files except for the purpose of constructing this contract. Any claims by third parties due to use or errors shall be the sole responsibility of the Contractor. The Contractor shall include this disclaimer with the transfer of these electronic files to any other parties and shall include appropriate language binding them to similar responsibilities.

INLETS (SPECIAL)

This work shall be in accordance with Section 602 of the Standard Specifications for Road and Bridge Construction and the for Inlets, Special Detail included in the Plans.

This item includes all materials (concrete, reinforcement, frames, lids, etc.), labor and equipment necessary to construct to the lines and grades shown within the Plans.

This work shall be paid for at the contract unit price per EACH for INLETS, SPECIAL..

ATTACHING TELESCOPING STEEL SIGN SUPPORTS TO BRIDGE RAILING

This work shall consist of installing telescoping steel sign support(s) at the locations shown in the plans and as directed by the Engineer.

Materials shall meet the requirements of the POWDER COATING OF PARAPET RAILING AND BRIDGE FENCE RAILING specification and conform to the standards for sign panel mounting, sign panel erection, and telescoping steel sign support.

The vertical telescoping steel sign support shall be attached to the outside of the bicycle railing at the nearest post location to the station listed in the plans for the sign to be installed using hardware to secure the support to the outside of the post. No drilling of holes into the railing shall be allowed. Any damage to the powder coating finish shall be repaired by the Contractor at their own expense.

This work will not be paid for separately and shall be considered included with the cost of TELESCOPING STEEL SIGN SUPPORT, which price shall include furnishing, erecting, and installing supports, and any other necessary hardware.

GUARDRAIL DELINEATORS/REFLECTORS

The reflector shall be the STRAIGHT, DOUBLE SIDED style and shall be in compliance with Illinois Department of Transportation Standard Specifications for Road and Bridge Construction Section 1097 and the following. The retroreflective sign sheeting used on the reflector shall meet Article 1097.02 (c)(2). Guardrail Delineators/Reflectors shall be a minimum of 13 inches tall and 3 inches wide, with a minimum reflective area of at least 12 square inches. The bodies of the markers shall be made from high-impact, weatherable engineering rigid PVC .090 thick (min). The markers shall be capable of retaining its original shape after being hit repeatedly.

Guardrail Delineators/Reflectors may be mounted directly to a wood, plastic or metal guardrail block out or metal delineator post, using 2 – 16 DG nails and 2 – 3/16” washers or 2 galvanized screws 2-1/2” in length or 2 – self tapping screws, in the pre-drilled holes. (When mounting on a metal delineator post, use 2 – 10/24 X 1-1/2 bolts with washer and nuts.).

Basis of payment: The Delineator or Marker shall be paid for per EACH for GUARDRAIL REFLECTORS, TYPE C (SPECIAL) as shown in District Standard 55.1.

BARRIER WALL DELINEATORS/REFLECTORS

The Barrier Wall Reflectors Special shall be installed according to District Standard REFLECTORS (SPECIAL) 55.1

The Barrier Wall Reflector Special shall be paid for at the contract unit price per EACH for Barrier Wall Reflectors (Special), which price shall also include screws, washers, or approved bonding agent. Reflectors installed on two lane roads shall be double sided and both sides shall be Crystal. Reflectors installed on center barrier wall shall be double sided and both sides shall be Amber. Reflectors installed on divided highways along the outside of the highway shall be double sided and both sides shall be Crystal. Spacing for reflectors shall be according to Standard 782006, unless otherwise noted in the plans.

SOLAR POWERED FLASHING BEACON ASSEMBLY (COMPLETE)

Effective: August 18, 2025

This pay item includes all necessary work to install the Post Mounted Solar Powered Flashing Beacon Assembly (Complete) as follows:

This work will consist of the installation of solar-powered flashing beacon assemblies (complete), at locations shown in the plans and approved by Kristie Nyderek (815/284-5469) of the Illinois Department of Transportation, two weeks prior to installation.

Overview: This specification is for a solar powered 24-hour flashing beacon. The system shall consist of a self-contained light engine containing all electronics, batteries & solar panels. No additional cabinet is required. The light engine shall connect to an ITE compliant 12” lens with visor and backplate, and mount with the included bracket set to a 4x6 wood post, unless otherwise specified in the plans. Flashers mounted above yellow warning signs shall consist of a yellow lens beacon and the flashers mounted above red regulatory signs shall consist of a red lens beacon. The flashers shall be installed one (1) foot above the sign.

1.0 Mechanical Specifications

The flasher shall meet the requirements of Section 800 of the Standard Specifications for Road and Bridge Construction. The light engine shall be constructed from aluminum, with a yellow power-coated finish, and shall be no greater in size than 6” x 17” x 26”. Solar panels shall be integrated to the light engine, and all batteries and electronics shall be located internally, with no external control cabinet required. The weight of the light engine shall not exceed 52 pounds. The light engine must be able to rotate 360 degrees and tilt 60 degrees for maximum solar energy collection. Batteries shall be field replaceable.

Enclosure. The controller shall be housed in a vandal-resistant, aluminum, NEMA 3R pole mounted cabinet with a lockable, hinged door.

Power. The controller unit shall be available in solar 12 VDC, 35 Ahr versions, each equipped with a 40W solar panel. Solar-powered systems shall provide a minimum of 15 days of back-up batter power in the absence of sunlight while operating at full brightness and at standard usage levels. The battery shall have a life span of a minimum of 5 years and be field replaceable.

The signal housing shall be constructed of yellow polycarbonate material, and must be adjustable independently from the bracket for lens alignment. The signal housings shall meet the equipment standard of the Institute of Transportation Engineers Vehicle Traffic Control Signal Heads (VTCSH) Chapter 2 and Sections 880 and 882 of the Standard Specifications for Road and Bridge Construction. The lens shall be an ITE complaint 12" yellow or red lens.

The bracket kit must be constructed of cast aluminum or steel, and shall be designed according to MASH safety standards. The bracket shall be designed to fit new or existing wood post or 4" OD pole supports, such that existing signs shall not be affected.

2.0 Operation Profile

The flash pattern and flash sequence shall comply with the Manual of Uniform Traffic Control Devices (MUTCD), Chapter 4K.

The light shall flash at a rate of 56.6 flashes per minute, 24 hours per day. The light shall flash with a 50% duty cycle (0.53s on time/ 0.53s off time). The light shall operate at 124, 250 or 400 candela (user configurable).

When set at 124 candela by day, and 35 by night, the light shall have a minimum operating autonomy of 40 days. The light shall automatically reduce light output in case of low battery situations, reducing risk that the light will fail entirely under conditions of poor solar insulation.

If shown in the plans, when two (2) flashers are for the same direction of travel, at the same location, the flashers must communicate and flash in a wig-wag pattern. The communication must be wireless.

3.0 Environmental Specifications

The light should be able to withstand and operate at temperature extremes of -40° F to +122° F. The system shall be designed and constructed to withstand 178 KM\h (110 mph) wind loads in conformance with the requirements of the AASHTO publication, "Standard Specifications for Structural Supports of Highway Signs, Luminaries and Traffic Signals", 4th Edition 2001.

4.0 Quality Assurance

The light, including batteries, panels and all components, shall be guaranteed for a minimum of three years.

If radio components are shown in the design plans the product must be FCC certified to comply with all 47 CFR FCC Part 15 Subpart B Emission requirements.

5.0 Existing Equipment

When indicated in the plans, existing solar flashers shall be carefully removed and stored for the Department. They shall remain the property of the Department. Traffic Operations shall be contacted to schedule pickup of the existing electrical equipment.

6.0 Basis of Payment

This work will be paid for at the contract unit price Each for SOLAR POWERED FLASHING BEACON ASSEMBLY (COMPLETE), which price shall be payment in full for furnishing all parts and labor for the installation of the solar unit. No additional compensation will be allowed.

POWDER COATING OF PARAPET RAILING AND BRIDGE FENCE RAILING

Description: This work shall include surface preparation, vinyl, polyolefin or powder type painted finish application and packaging of new galvanized railing and fence system assemblies. All work associated with applying the painted finish shall be performed at the manufacturing facility for the fence system assembly or railing assembly or at a painting facility approved by the Engineer. After installation of railing or fence system in the field, the color of all visually exposed surfaces of all connector hardware shall be touched up using material as recommended by the galvanizer and the powder coating supplier to match the black powder coating that was applied to all other metal elements of the railing systems.

This work shall conform to Section 509 of the Standard Specifications with the additional work specified herein and as shown on the plans.

Materials: Materials shall meet the requirements of Article 509.02 of the Standard Specifications, and as specified below.

Fence Fabric: The fabric shall be woven in 2 inch mesh with 0.148 inch diameter wire meeting the requirements of AASHTO M181, Type IV, Class B (polyvinyl chloride PVC) or ASTM F668 Class 2b (polyvinyl chloride PVC or polyolefin elastomer) coated steel.

Fence Coating: The tension wire and fabric ties shall be vinyl or polyolefin coated.

Galvanizing: The posts, post tops, base and cap plates, railings, braces, stretcher bars, fittings and hardware shall be powder coated. All materials to be powder coated shall be hot dipped galvanized in accordance with Articles 1006.27, 1006.28 and 1006.34 of the Standard Specifications and ASTM A123 with a minimum zinc coating of 0.90 ounces per square foot (G90) after fabrication and prior to vinyl, polyolefin, or powder coating. Vent holes for galvanizing shall be placed in the posts and rails at locations that will not allow the accumulation of moisture in the members. Only the dry-kettle (pre-fluxing) process shall be used. The material shall not be water or chromate quenched. Galvanized materials to be powder coated shall be air cooled only. An American Galvanizers Association trained Master Galvanizer shall be on the premises during the hot dipped galvanizing process.

Powder: Powder coating material shall be a thermosetting, durable, TGIC polyester powder of a degassing grade. Such coating powder must be recommended by its manufacturer for use over hot dipped galvanizing. The coating powder's particle size distribution shall be recommended by

its manufacturer to produce the best results for powder coating components under this specification.

Surface Preparation. All primary components of railing systems: posts, post tops, base and cap plates, railings, braces, stretcher bars, and fittings shall receive a pre-treatment process that cleans and prepares the galvanized surface to assure complete adhesion of the powder coating after drilling and layout, to ensure maximum corrosion protection. The zinc surface shall be prepared for powder coat application using a multistage system employing appropriate cleaners and imparting a phosphate conversion coat to provide an appropriate substrate for the powder coat material. During the cleaning process, water rinses shall be used as appropriate between stages to clean the items and prepare them for the subsequent stages. Water for the rinses, unless specified elsewhere shall be potable with a hardness not to be more than 250 ppm as CaCO_3 and a combined chloride and sulfate level less than 100 ppm.

Surface Defects: All weld flux and other contaminates shall be mechanically removed. All drainage spikes, tears, high spots, protrusions or other surface defects shall be removed using hand or power tools in accordance with the manufacturer's specifications. Such operations shall not remove the galvanized coating below the thickness allowed by ASTM A123. Thickness of the galvanizing shall be verified using a properly calibrated magnetic thickness gauge as per ASTM E376. Any item falling below the required zinc thickness, before or after removal of any high spots, shall be repaired in accordance with Practice A780.

Surface Cleaning: The galvanized surface shall be clean and free of oils and grease before they are powder coated. These shall be removed by use of an aqueous alkaline solution and/or hand or power tool cleaning. Subsequent to alkaline/power cleaning, trace zinc oxide will be removed by a mild acidic solution.

- An alkaline solution, pH in the range of 11 to 12 may be used to remove traces of oil, grease, or dirt. The alkaline solution shall not have a pH exceeding 13. After cleaning the piece shall be rinsed thoroughly in water under pressure.
- Hand or power tool cleaning may be used to clean light deposits of zinc reaction products such as wet storage stain, as specified to SSPC Surface Preparation Specification 2 or 3 as appropriate.
- An acidic solution with a pH of 3.5 to 4.5 shall be sprayed onto the item to remove residual zinc oxide.

Surface Profiling: The galvanized surface shall be profiled to promote proper powder coating adhesion. This shall be accomplished by applying a phosphate treatment to create a protective crystalline phosphate conversion coating on the zinc surface. The coating shall have a coating weight between 20 to 70 mg/ft².

Final Rinse: To ensure the most optimum performance possible, a final rinse of de-mineralized water shall be applied as a final rinse prior to pre-baking. This stage will remove any un-reacted phosphate and other contaminants.

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

Color: The color of all vinyl, polyolefin or polyester powder coatings on fence metal fabric, posts, post tops, base and cap plates, railings, braces, stretcher bars, fittings, hardware, and accessories shall be a smooth powder black finish.

Pre-baking: Following phosphating all items to be powder coated shall be placed in an oven capable of maintaining a temperature of 500°F. Specimens shall be baked at a temperature 25°F above the normal cure temperature for the powder that will be employed. The specimens shall remain in the oven for a minimum of 20 minutes after having equalized to the temperature of the oven to remove any residual moisture from the preparation phase, and insure expulsion of any entrapped gases or moisture. Typically, specimens are pre-baked for one hour.

Powder Coat Application: Polyester powder shall be applied through electrostatic/tribomatic application guns. The powder shall be applied in multiple coats. The first coat shall have a thickness of 1.5 to 3 mils. Each intermediate coat shall be partially cured at a temperature of 350°F to insure adhesion. Subsequent coats shall be then applied in 1.5 to 3 mil increments to bring the specimen to its final (cured) thickness as required by the customer specification. In no case will the final (cured) thickness be less than 5 mils.

Cure: The powder coating shall be cured by heating the coated specimens to a temperature and duration specified by the powder coat material manufacturer to insure sufficient curing of the powder coating material. The resulting coating shall be uniform in color and free of pinholes, blisters, and other surface defects. Correct cure shall be checked by a solvent rub test.

Properties of Cured Coating:

Minimum film thickness TGIC 5.0 mils (120µm)
Direct impact ASTM D 2794 160 in./lb (9.0 m/kg)
Reverse impact ASTM D 2794 160 in./lb (9.0 m/kg)
Pencil hardness (scratch/gouge) ASTM D 383 2H
Flexibility (Mandrel test) ASTM D 522 1/8 in. (3m mm)
Minimum adhesion ASTM D 3359 5A,5B (100% crosshatch)
Salt spray ASTM B 117 + 1000 hrs < 2mm

Repair of Powder Coated Material:

- Damage shall be defined as exposed galvanized coating.
- Damaged coatings less than ½ of 1% of the surface area shall be acceptable for repair. Damage greater than that amount shall be recoated. Final finish shall be damage free FOB the plant.
- Coatings to be repaired shall be touched up as recommended by the galvanizer and the powder coating supplier. Touch up and/or field repair can be accomplished using either powder coating material or paint. Typically acrylic based paint as recommended by the powder coating material manufacturer, applied either by spray or brushed on liquid is used for touch up and repair of the powder coating.

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

Packaging: Prior to shipping, the new railing and fence system assemblies including fence metal fabric, posts, post tops, base and cap plates, railings, braces, stretcher bars, fittings, hardware, and accessories shall be wrapped in ultraviolet-inhibiting plastic foam or rubberized foam.

Submittals. In addition to the requirements of Article 509.04 of the Standard Specifications, the Contractor shall provide certification for the following:

- The galvanized element surfaces were properly prepared for adhesion of powder coat.
- The connector hardware was properly prepared for adhesion of field-applied paint.
- Polyester Powder was applied at a rate of 1.5 to 3 mils and properly cured per the manufacturer's recommendations.

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

Basis of Payment. This work shall be paid for at the contract Lump Sum price for POWDER COATING OF PARAPET RAILING AND BRIDGE FENCE RAILING, which shall be payment in full for surface preparation and powder coat application to all galvanized metal elements of the railing systems including posts, post tops, base and cap plates, railings, braces, stretcher bars, fittings, hardware, and accessories. This payment shall also include vinyl or polyolefin coat application to fence metal fabric and the packaging of new railing and fence system assemblies as described in this specification.

BENCHES

Description: This work shall include:

1. Furnishing, assembling and installing decorative metal benches ("benches") at the positions and grades designated on the construction drawings.
2. Furnishing and installing the appurtenant materials required for the installation of the benches as shown on the construction drawings.

General Requirements: The contractor shall comply with manufacturer's recommendations for transportation, installation and approved submittals. All benches shall be installed level and true and in proper relation to adjacent surfaces.

Submittal Requirements: Submit following for review and approval.

1. Product Data: Manufacturer's standard product literature.
2. Shop Drawings: Indicating size, connections, materials, etc.
3. Installation Instructions
4. Maintenance Instructions
5. Warranty Information

Material Requirements: Materials used for bench construction shall comply with the following.

1. Decorative Metal Site Bench: Meeting the following specifications:
 - a. Basis of Design Product: Bench 58 by DuMor, inc.
 - b. Manufacturer Contact: <https://dumor.com/products/bench-58>
 - c. Dimension: 6' Length
 - d. Configuration: Backed with End Armrest
 - e. Frame Material: Cast Iron and Steel

- f. Frame Finish: Zinc Rich Epoxy then finished with Polyester Powder Coating, Provide Manufacturer standard color options for selection.
 - g. Mounting: Anchored to concrete slab, using Manufacturer recommended mount brackets.
 - h. Manufacturer's Warranty: Three (3) years from date of invoice against defects in materials and workmanship, to be held by the Village of Rockton.
2. The contractor shall submit manufacturer's product literature, including color charts and installation details for approval.
3. Benches must be supplied by a single manufacturer having the resources to provide consistent quality in appearance and physical properties.
4. Benches are to be packaged and shipped and as per manufacturer's recommendations.
5. All products are to be free from cracks, chips, defects and surface blemishes.

Construction Requirements: Installation of benches shall comply with the following:

1. Benches are to be installed as per manufacturer's instructions.
2. Benches are to be surface mounted to concrete slabs where indicated in a manner which does not compromise the integrity of, crack, chip or discolor the slab.
3. Benches to be anchored to concrete slab using Manufacturer recommended hardware.

This work will be paid for at the contract unit price per Each for BENCHES, which price shall include all labor, materials, surface mount brackets, and equipment necessary to complete the work specified herein.

FLAGPOLES

This work shall consist of installing a new flag pole located in the pedestrian bump out on the new bridge as directed by the Engineer.

The new flag pole shall be six inches (6") in diameter, 0.188" wall thickness and have an exposure height of thirty feet (30') for the pole. The pole shall have the following features:

- All poles shall be aluminum and powder coated black in color
- All poles shall be of the internal halyard type with winch
- All poles shall be equipped with up-down solar powered flagpole LED lighting units

Catalog shop drawings shall be submitted to the Engineer for approval prior to ordering the flag pole.

This work will be paid for at the contract unit price per EACH for FLAGPOLES which price shall be full compensation for all equipment, labor and materials.

RELOCATING COMMEMORATIVE PLAQUES

Description. This work shall consist of the removing, cleaning, storing, and reinstalling existing bridge commemorative plaques as identified on the plans and as directed by the Engineer.

Existing commemorative plaques shall be removed from their existing locations and cleaned. Removal shall be done with handheld tools preserving the plaques and bolts/lugs in good condition. The Contractor shall be responsible for repairing any damage to the plaques caused by the removal operations at their expense. If the Contractor's operations cause unrepairable damage to the existing plaques, a new plaque with identical markings and in accordance with Section 515 shall be furnished and installed at the Contractor's expense. The Contractor shall be responsible for storing the plaques in a secure location until reinstallation. Installation in the proposed locations shall be according to the Article 515.04 of the Standard Specifications. Installation locations shall be per the Design Plans and the recommendations of the Engineer.

Basis of Payment. This work will be paid for at the contract unit price per EACH for RELOCATING COMMEMORATIVE PLAQUES.

STATELINE MASS TRANSIT DISTRICT CREDITS

For the purpose of providing alternate pedestrian access route for the duration of the IL-75 bridge closure, The Contractor is required to obtain 30 STATELINE MASS TRANSIT DISTRICT CREDITS from the Village of Rockton. The Village to Rockton will manage these credits in order to purchase both full-fare tickets and mobile passes to distribute to pedestrians who request SMTD shuttle services.

One STATELINE MASS TRANSIT DISTRICT CREDITS is equivalent to one full-fare SMTD ticket. This is an on demand service, and the Contractor shall acknowledge that additional credits may be required throughout the duration of the contract. Prior to the Contractor initiating full closure of the IL-75 bridge, proof of the purchase of STATELINE MASS TRANSIT DISTRICT CREDITS shall be provided to the Resident Engineer.

If there are any questions, comments or concerns about this Special Provision, please contact the district 2 designer, Andrew Dewey, at 815-284-5358 or Happy Welch at 815-624-7600.

Village of Rockton SMTD Coordinator:

Happy Welch
Village Administrator
110 E. Main St. Rockton, IL 61072
Email: hwelch@rocktonil.gov
Phone: 815-624-7600 ext. 2277

For the Contractors information:

SMTD fare prices @ <https://www.smtd.biz/fares>
Please bid accordingly.

If there are any questions, comments or concerns about this Special Provision, please contact the District 2 Environmental Studies Supervisor at 815-284-5460.

Basis of Payment. Stateline mass transit district credits will be paid for at the contract unit price per EACH for STATELINE MASS TRANSIT DISTRICT CREDITS. If this pay item is not present in the advertised summary of quantities, payment will be processed per art. 109.05 of the Standard Specifications for Road and Bridge Construction.

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

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

Contract Specific Work Areas. For stationing, the lateral distance is measured from the centerline, and the farthest distance is the offset distance or construction limit, whichever is less.

The following contract-specific work areas shall be monitored by the Environmental Firm for soil contamination and workers' protection.

PESA Site 4165V-21 – Settler's Park, Rockton, Winnebago County, Illinois

- Station 941+48 to Station 942+40 (CL IL-75) from 0 to 45 feet RT. The Engineer has determined this material from 0 to 1 feet bgs in the vicinity of the station and offset meets the criteria of and shall be managed in accordance with 669.05(a)(1). Contaminants of concern sampling parameters include: SVOCs and Manganese.

PESA Site 4165V-22 – Bridge, Rockton, Winnebago County, Illinois

- Station 933+28 to Station 934+45 (CL IL-75) from 0 to 40 feet LT. The Engineer has determined this material from 0 to 5 feet bgs in the vicinity of the station and offset meets the criteria of and shall be managed in accordance with 669.05(a)(3). Contaminants of concern sampling parameters include: SVOCs.
- Station 940+33 to Station 941+48 (CL IL-75) from 40 feet LT to 40 feet RT. The Engineer has determined this material from 0 to 10 feet bgs in the vicinity of the station and offset meets the criteria of and shall be managed in accordance with 669.05(b)(1). Contaminants of concern sampling parameters include: pH.

PESA Site 4165V-23 – Rock River, Rockton, Winnebago County, Illinois

- Station 939+10 to Station 940+33 (CL IL-75) from 0 to 40 feet LT. The Engineer has determined this material from 0 to 10 feet bgs in the vicinity of the station and offset meets the criteria of and shall be managed in accordance with 669.05(a)(3). Contaminants of concern sampling parameters include: SVOCs.
- Station 937+60 to Station 939+10 (CL IL-75) from 40 feet LT to 40 feet RT. The Engineer has determined this material from 0 to 10 feet bgs in the vicinity of the station and offset meets the criteria of and shall be managed in accordance with 669.05(a)(3). Contaminants of concern sampling parameters include: SVOCs.

Work Zones

Three distinct OSHA HAZWOPER work zones (exclusion, decontamination, and support) shall apply to projects adjacent to or within sites with documented leaking underground storage tank (LUST) incidents, or sites under management in accordance with the requirements of the Site Remediation Program (SRP), Resource Conservation and Recovery Act (RCRA), or Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), or as deemed necessary. For this project, the work zones apply to the following ISGS PESA Sites:

None

Additional information on the contract-specific work areas listed above, collected during the regulated substances due diligence process, is available through the District's Environmental Studies Unit (DESU).

GENERAL ELECTRICAL REQUIREMENTS

Effective: July 1, 2025

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 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.

Within 30 calendar days after contract execution, the Contractor shall submit, for approval, through the method as directed in the pre-construction meeting. 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.

Submittals shall be provided for all items used, temporary and permanent, for review and approval.

Equipment which will be owned and maintained by a local agency other than the State shall be reviewed and approved by that agency prior to submittal to the State. The submittal to the State shall include any comments made by the local agency.

Each PDF document must be a vector format PDF from the originating supplier or program and not scanned images.

The submittal must clearly identify the specific model number or catalog number of the item being proposed. Submittals must be the Manufacturers current published information. Out of date submittal material will be grounds for rejection.

The submittal shall be properly identified by Contractor, Pay Item Number, route, section, county, and contract number. Example:

Contractor: Contractor Name
Pay Item: X0327607
Route: I-00
Section: 2013-xxx-yzx
County: Cook
Contract: 12Z34

The Contractor shall have reviewed the submittal material and affixed the Contractor's stamp of approval, with date and signature, for each individual item prior to submittal. The Contractor's approval stamp shall be the first page of 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 Department may provide a list of pay items broken out by discipline upon request for a particular contract. In general, the disciplines are as follows:

Discipline	Typical Items
ITS	CCTV CCTV structures Communication vaults Fiber optic Fiber optic duct Network equipment
Lighting	Breakaway devices Light poles Light tower Lighting cables Lighting controllers Luminaires Unit duct
Pump Station	All pump station equipment
Signing	Signing
Surveillance	Loop cables Detector equipment & associated structures Ramp metering & associated structures Wireless pavement sensors and assoc. structures Radar detection Data Probing Handholes Dynamic Message Signs (DMS)
Traffic Signal	Controllers/Cabinets Handholes Illuminated signs Pedestrian Push Buttons Signal Cable Signal Detectors Signal Heads Signal Loop Cable Signal Modules Signal Structures
Local Roads Lighting	Same as lighting
Local Roads Traffic Signal	Same as traffic signal
Discipline with the predominate amount of work in contract or ask Engineer.	Raceways Electric cables Junction boxes

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", "Incomplete", 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", "Incomplete" 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.

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 electrical systems (lighting, ITS, Pump Station, Surveillance, and 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 fourteen (14) 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 the electrical systems which may be affected by the work.

Marking of Existing Cable Systems. The party responsible for maintenance of any existing electrical 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 1 foot (304.8 mm) 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.”

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.

Electrical Infrastructure During Construction. The scope of work shall include locating and marking the proposed underground infrastructure installed in this contract.

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.

Marking Proposed Locations. 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.

Testing.

General. 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
- Resistance of Grounding Electrodes
- 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 shall be measured and recorded with all loads disconnected. Prior to performance of the insulation resistance test, the Contractor shall remove all fuses within all light pole bases on a circuit to segregate the luminaire loads.

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

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

(1) 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.

(2) The loop and lead-in circuit shall have an inductance between 20 and 2500 microhenries.

(3) The resistance to ground shall be a minimum of 50 megohms under any conditions of weather or moisture.

(4) The continuity test of the loop and loop lead-in shall not have a resistance greater than two (2) ohms

(5) The quality factor (Q) shall be 5 or greater.

Loops which fail to test satisfactorily shall be repaired or replaced.

Telecommunication Cable. Once the telecommunication cable is installed complete with all cable terminations complete the Contractor shall request an end-to-end test. The Contractor shall request the end-to-end test at least 7 days in advance to the TSC Engineer. Any lane closures and/or any other safety measures that need to be taken shall be provided for by the Contractor and shall be considered incidental to the cost of this item. The type of test performed shall be an end-to-end test with Halcyon type equipment transmitting and receiving at each end of the cable. Each pair shall be tested, and the results shall be recorded and submitted to the Engineer. If any results don't fall within the requirements set forth in (REA) PE-39, the Contractor shall correct and re-test that cable pair. Traffic Systems will tolerate only one pair out of every 100 pair of cable that doesn't meet or exceed specifications set forth in (REA) PE-39.

Wireless In-Pavement Detection Systems shall be tested in accordance with the approved testing procedures provided in the catalog cut submittal.

Fiber Optic Systems.

The Contractor shall submit detailed test procedures for approval by the Engineer. All fibers (terminated and un-terminated) shall be tested bi-directionally at both 1310 nm and 1550 nm with both an Optical Time Domain Reflectometer (OTDR) and a power meter with an optical source. For testing, intermediate breakout fibers may be concatenated and tested end-to-end. Any discrepancies between the measured results and these specifications will be resolved to the satisfaction of the Engineer.

Fibers which are not to be terminated shall be tested with a temporary fusion spliced pigtail fiber. **Mechanical splice or bare fiber adapters are not acceptable.**

The Contractor shall provide the date, time and location of any tests required by this specification to the Engineer at least 5 working (7 calendar) days before performing the test. Included with the notification shall be a record drawing of the installed fiber optic cable system. The drawings shall indicate actual installed routing of the cable, the locations of splices, and locations of cable slack with slack quantities identified.

Upon completion of the cable installation, splicing, and termination, the Contractor shall test all fibers for continuity, events above 0.1 dB, and total attenuation of the cable. The test procedure shall be as follows:

A Certified Technician utilizing an Optical Time Domain Reflectometer (OTDR) and Optical Source/Power Meter shall conduct the installation test. The test equipment used shall have been calibrated within the last two years. Documentation shall be provided. The Technician is directed to conduct the test using the standard operating procedures defined by the manufacturer of the test equipment. All fibers installed shall be tested in both directions.

A fiber ring or fiber box shall be used to connect the OTDR to the fiber optic cable under test at both the launch and receive ends. The tests shall be conducted at 1310 and 1550 nm for all fibers.

All testing shall be witnessed by the IDOT Engineer, and a copy of the test results (CD ROM or USB Drive) shall be submitted on the same day of the test. Hardcopies shall be submitted as described herein with copies on CD ROM or USB Drive.

At the completion of the test, the Contractor shall provide copies of the documentation of the test results to the Project Engineer. The test documentation shall be submitted as two bound copies and three CD ROM, or USB drive copies, and shall include the following:

Cable & Fiber Identification:

- Cable ID
- Cable Location - beginning and end point
- Fiber ID, including tube and fiber color
- Wavelength
- Pulse width (OTDR)
- Refractory index (OTDR)
- Operator Name
- Date & Time
- Setup Parameters
- Range (OTDR)
- Scale (OTDR)
- Setup Option chosen to pass OTDR "dead zone"

Test Results shall include:

- OTDR Test results
- Total Fiber Trace
- Splice Loss/Gain
- Events > 0.10 dB
- Measured Length (Cable Marking)
- Total Length (OTDR)
- Optical Source/Power Meter Total Attenuation (dB/km)

Sample Power Meter Tabulation:

Power Meter Measurements (dB)									
Location		Fiber No.	Cable Length (km)	A to B		B to A		Bidirectional Average	
A	B			1310 nm	1550 nm	1310 nm	1550 nm	1310 nm	1550 nm
		1							
		2							
Maximum Loss									
Minimum Loss									

The OTDR test results file format must be Bellcore/Telcordia compliant according to GR-196-CORE Issue 2, OTDR Data Standard, GR 196, Revision 1.0, GR 196, Revision 1.1, GR 196, Revision 2.0 (SR-4731) in a ".SOR" file format. A copy of the test equipment manufacture's software to read the test files, OTDR and power, shall be provided to the Department. These results shall also be provided in tabular form, see sample below:

Sample OTDR Summary				
Cable Designation:	<i>TCF-IK-03</i>	OTDR Location:	<i>Pump Sta. 67</i>	Date: <i>1/1/00</i>
Fiber Number	Event Type	Event Location	Event Loss (dB)	
			1310 nm	1550 nm
<i>1</i>	<i>Splice</i>	<i>23500 Ft.</i>	<i>.082</i>	<i>.078</i>
<i>1</i>	<i>Splice</i>	<i>29000 Ft.</i>	<i>.075</i>	<i>.063</i>
<i>2</i>	<i>Splice</i>	<i>29000 Ft.</i>	<i>.091</i>	<i>.082</i>
<i>3</i>	<i>Splice</i>	<i>26000 Ft.</i>	<i>.072</i>	<i>.061</i>
<i>3</i>	<i>Bend</i>	<i>27000 Ft.</i>	<i>.010</i>	<i>.009</i>

The following shall be the criteria for the acceptance of the cable:

Upon completing all splicing operations for a cable span, the Contractor shall measure the mean bi-directional loss at each splice using an Optical Time Domain Reflectometer.

When splices are made between identical cables (same manufacturer and cable type) the average optical loss of each splice shall not exceed 0.10 dB. The average is determined by measuring the splice loss in both directions with an OTDR, adding the two readings, and dividing by two. Testing should be performed for both the 1310 and 1550 nm wavelengths. No individual splice loss measured in a single direction shall exceed 0.15 dB.

When splices are made between cables containing fibers of different mode field diameters, the average optical loss of each splice shall not exceed 0.50 dB. The average is determined by measuring the splice loss in both directions with an OTDR, adding the two readings, and dividing by two. Testing should be performed for both the 1310 and 1550 nm wavelengths. No individual splice loss measured in a single direction shall exceed 0.6 dB.

The Contractor shall measure the end-to-end attenuation of each fiber, from connector to connector, using an optical power meter and source. This loss shall be measured at from both directions and shall not exceed 0.5 dB per installed kilometer of single mode cable. Measurements shall be made at both 1300 and 1550 nm for single mode cable.

For multimode cable, power meter measurements shall be made at 850 and 1300 nm. The end-to-end attenuation shall not exceed 3.8 dB/installed kilometers at 850nm or 1.8 dB per installed kilometer at 1300nm for multimode fibers.

If the total loss exceeds these specifications, the Contractor shall replace or repair the cable run at the no additional cost to the state, both labor and materials. Elevated attenuation due to exceeding the pulling tension, or any other installation operation, during installation shall require the replacement of the cable run at no additional cost to the State, including labor and materials.

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 120 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 made on the PDF copy of the as-Let documents using a PDF editor. Hand drawn notations or markups and scanned plans are not acceptable. These drawings shall be updated daily and shall be available for inspection by the Engineer during the work. The record drawings shall include the following:

- Cover Sheet
- The Electrical Maintenance Contract Management System (EMCMS) location designation, i.e. "L", "TS", "S", "A" number.
- Summary of Quantities, electrical items only
- Legends, Schedules, and Notes
- Plan Sheets
- Final fiber assignment tables
- Pertinent Details
- Single Line Diagrams; electrical, communications, surveillance and fiber optic.
- 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 programming
- 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, marked “**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 via a mutually agreed to electronic format 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 (bookmarks) the respective pay item number.** Specific part or model numbers of items which have been selected shall be clearly visible.

If the Electric Service is new or modified, documentation as required in the Electric Utility Service Connection shall be submitted.

During the Final Inspection, the Contractor shall provide three 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 equipment designations and clearly identified.

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 three hardcopies and two CD-ROMs or USB Drives of the final documentation shall be submitted. The identical material shall also be submitted in the same manner as the catalog cut submittals utilizing the following final documentation pay item numbers:

Pay Code	Description	Discipline
FDLRD000	Record Drawings - Lighting	Lighting
FDSRD000	Record Drawings - Surveillance	Surveillance
FDTRD000	Record Drawings - Traffic Signal	Traffic Signal
FDIRD000	Record Drawings - ITS	ITS
FDLCC000	Catalog Cuts - Lighting	Lighting
FDSCC000	Catalog Cuts – Surveillance	Surveillance
FDTCC000	Catalog Cuts – Traffic Signal	Traffic Signal
FDICC000	Catalog Cuts - ITS	ITS
FDLWL000	Warranty - Lighting	Lighting
FDSWL000	Warranty - Surveillance	Surveillance
FDTWL000	Warranty - Traffic Signal	Traffic Signal
FDIWL000	Warranty - ITS	ITS
FDLTR000	Test Results - Lighting	Lighting
FDSTR000	Test Results - Surveillance	Surveillance
FDTTR000	Test Results - Traffic Signal	Traffic Signal
FDITR000	Test Results - ITS	ITS
FDLINV00	Inventory - Lighting	Lighting

FDSINV00	Inventory - Surveillance	Surveillance
FDTINV00	Inventory - Traffic Signal	Traffic Signal
FDIINV00	Inventory - ITS	ITS
FDLGPS00	GPS - Lighting	Lighting
FDSGPS00	GPS - Surveillance	Surveillance
FDTGPS00	GPS - Traffic Signal	Traffic Signal
FDIGPS00	GPS - ITS	ITS
FDLES00	Electric Service - Lighting	Lighting
FDSES00	Electric Service - Surveillance	Surveillance
FDTES00	Electric Service - Traffic Signal	Traffic Signal
FDIES00	Electric Service - ITS	ITS

Record Drawings shall include Marked up plans, controller info, Electric Service Info, Equipment Settings, Manuals, Wiring Diagrams for each discipline.

Test results shall be all electrical test results, fiber optic OTDR, and Fiber Optic power meter as applicable for each discipline.

GPS Documentation. In addition to the specified record drawings, the Contactor 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.
- Fiber Optic Utility Markers
- 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.
- All wireless in-pavement vehicle detectors

Datum to be used shall be North American 1983.

Data shall be provided electronically. 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

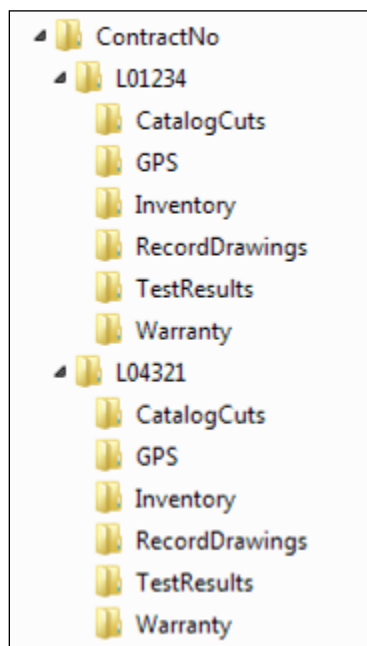
A spreadsheet template will be available from the Engineer for use by the Contractor.

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 ROM, or USB Drive 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.

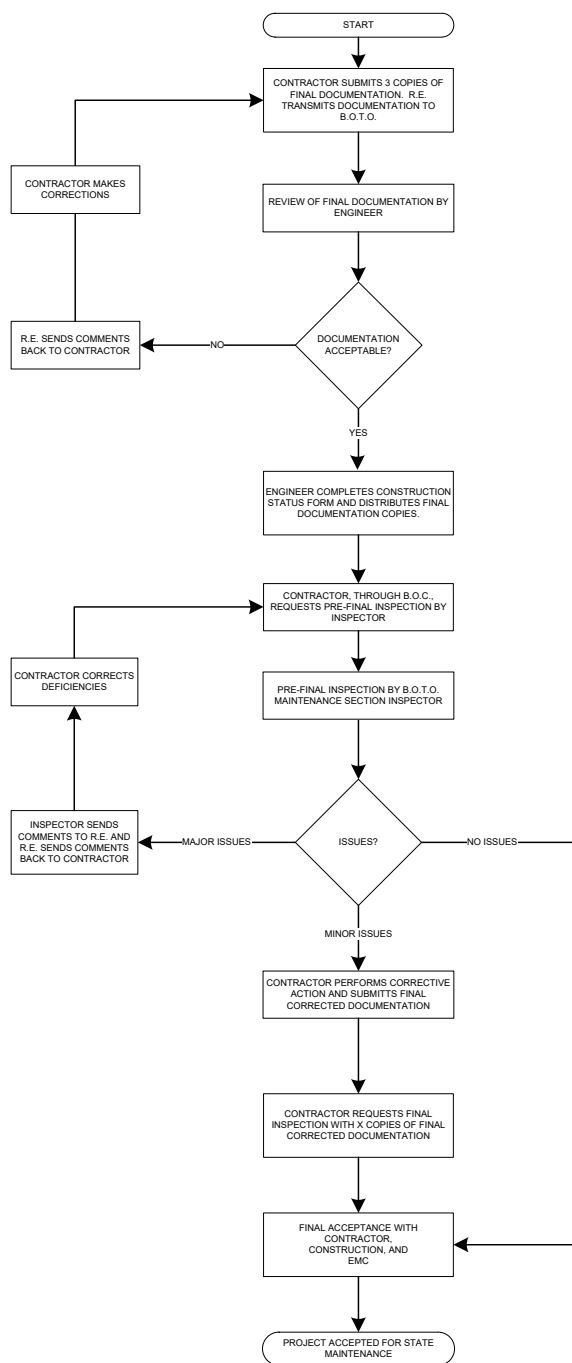
The Final Acceptance Documentation Checklist shall be completed and is contained elsewhere herein.

If CD's are used they 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		
-Three hardcopies (11" x 17")	☐	☐
-PDFs as required elsewhere	☐	☐
Field Inspection Tests		
-Voltage	☐	☐
-Amperage	☐	☐
-Cable Insulation Resistance	☐	☐
-Continuity	☐	☐
-Controller Ground Rod Resistance	☐	☐
(Three Hardcopies & PDFs as required)		
GPS Coordinates		
-Excel file	☐	☐
(Check Special Provisions, Excel file required.)		
Job Warranty Letter		
(Three Hardcopies & PDFs as required)	☐	☐
Catalog Cut Submittals		
-Approved & Approved as Noted	☐	☐
(PDFs as required)		
Lighting Inventory Form		
(Three Hardcopies & PDFs as required)	☐	☐
Lighting Controller Inventory Form		
(Three Hardcopies & PDFs as required)	☐	☐
Electric Service Documentation		
(Three Hardcopies & PDFs as required)	☐	☐
Light Tower Inspection Form		
(If applicable, Three Hardcopies & PDFs as required)	☐	☐

Three Hardcopies & PDFs as required shall be submitted for all items above. If a CD ROM is used it 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 shall be 11" x 17" size. 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.

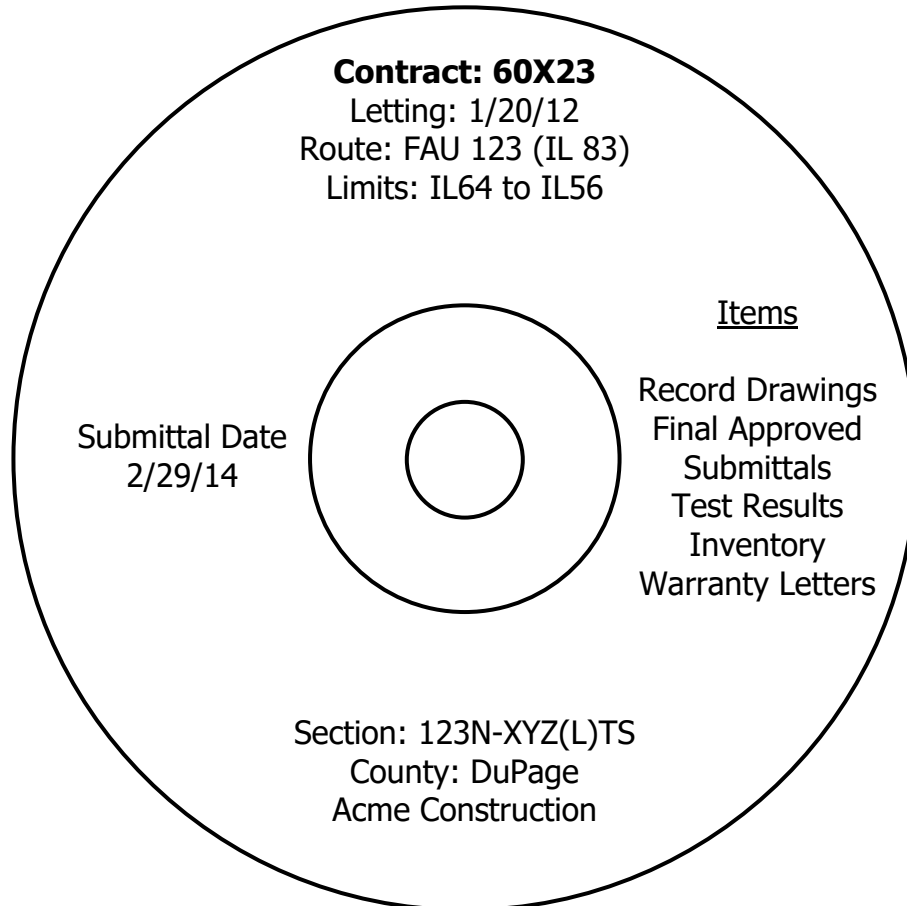
Lighting Inventory Form – Inventory form should include only proposed light poles, proposed light towers, proposed combination (traffic/light pole) lighting and proposed underpass luminaires.

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.



PAINT MAST ARM AND POLE

It is the intent of the department that the proposed light poles shall be finished in a color and texture that is available from the supplier and the choosing of the Village of Rockton.

The Contractor shall contact the municipality prior to ordering the proposed equipment to determine the color of the finish and any other choice of option concerning the finish.

The warranty level of the finish shall be for a period of 5 yrs.

Areas damaged during installation shall be touched up according to the specified painting process as directed from the manufacturer.

Payment for the painting of the proposed light poles shall be paid for per the contract unit price per EACH for PAINT NEW MAST ARM AND POLE, UNDER 40 FOOT. No additional compensation will be allowed.

ELECTRIC UTILITY SERVICE CONNECTION

Effective: July 1, 2025

Description. This item shall consist of payment for work performed by the Electric Service Provider (Utility Company) in providing or modifying electric service as indicated. THIS MAY INVOLVE WORK AT MORE THAN ONE ELECTRIC SERVICE LOCATION.

CONSTRUCTION REQUIREMENTS

General. It shall be the Contractor's responsibility to contact the Electric Service Provider. The Contractor shall coordinate his work fully with the Electric Service Provider both as to the work required and the timing of the installation. No additional compensation will be granted under this or any other item for extra work caused by failure to meet this requirement.

For those locations served by ComEd; please contact ComEd, New Business Center Call Center, at 866 NEW ELECTRIC (1-866-639-3532) to begin the service connection process. The Call Center Representatives will create a work order for the service connection. The representative will ask the requestor for information specific to the request. The representative will assign the request based upon the location of project.

For locations served by other electric service providers, that utility shall be contacted.

The Contractor should make particular note of the need for the earliest attention to arrangements with the Electric Service Provider for service. In the event of delay by the Electric Service Provider, no extension of time will be considered applicable for the delay unless the Contractor can produce written evidence of a request for electric service within 30 days of execution.

Documentation. The Contractor shall provide copies of all correspondence with the Electric Service Provider including as a minimum:

- A copy of the request for service to the Electric Service Provider.
- Service Entrance Sketch
- Electric Service Account Number
- Electric Meter Number

- Size of Utility transformer and available fault current.
- GPS coordinates of the service, format as described in the General Electrical Provisions.

All correspondence for State owned and maintained installations must include the pertinent contract number and Electrical Maintenance database number

Certain state-maintained electrical systems may have energy paid by local agencies, but unless otherwise established, energy billing for state-maintained electrical systems shall be directed to:

Illinois Department of Transportation
District 2

Electric service correspondence for Non-State owned systems shall be directed to the respective agency assuming maintenance with a copy of the final service agreement submitted to IDOT.

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

Basis Of Payment. This work will be paid for at the contract unit price each for ELECTRIC SERVICE INSTALLATION AND CONNECTION which shall be reimbursement in full for electric utility service charges.

ELECTRIC SERVICE INSTALLATION

Effective: January 1, 2012

Description. This item shall consist of all material and labor required to extend, connect or modify the electric services, as indicated or specified, which is over and above the work performed by the utility. Unless otherwise indicated, the cost for the utility work, if any, will be reimbursed to the Contractor as described in ELECTRIC UTILITY SERVICE CONNECTION. This item may apply to the work at more than one service location and each will be paid separately.

Materials. Materials shall be in accordance with the Standard Specifications.

CONSTRUCTION REQUIREMENTS

General. The Contractor shall ascertain the work being provided by the electric utility and shall provide all additional material and work not included by other contract pay items required to complete the electric service work in complete compliance with the requirements of the utility.

No additional compensation will be allowed for work required for the electric service, even though not explicitly shown on the Drawings or specified herein

Method Of Measurement. Electric Service Installation shall be counted, each.

Basis Of Payment. This work will be paid for at the contract unit price each for ELECTRIC SERVICE INSTALLATION AND CONNECTION which shall be payment in full for the work specified herein.

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 coilaible 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.”

UNIT DUCT

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) Coilaible 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

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.”

HIGH LOAD MULTI-ROTATIONAL BEARINGS

Effective: October 13, 1988

Revised: June 28, 2024

Description. This work shall consist of furnishing and installing High Load Multi-Rotational type bearing assemblies at the locations shown on the plans.

High Load Multi-Rotational (HLMR) bearings shall be the type as shown on the plans, which will be one of the following:

- a) Pot Bearings. These bearings shall be manufactured so that the rotational capability is provided by an assembly having a rubber disc of proper thickness, confined in a manner so it behaves like a fluid. The disc shall be installed, with a snug fit, into a steel cylinder and confined by a tight fitting piston. The outside diameter of the piston shall be no more than 0.03 in. (750 microns) less than the inside diameter of the cylinder at the interface level of the piston and rubber disc. The sides of the piston shall be beveled. PTFE sheets, or silicone grease shall be utilized to facilitate rotation of the rubber disc. Suitable brass sealing rings shall be provided to prevent any extrusion between piston and cylinder.
- b) Shear Inhibited Disc Type Bearing. The Structural Element shall be restricted from shear by the pin and ring design and need not be completely confined as with the Pot Bearing design. The disc shall be a molded monolithic Polyether Urethane compound.

These bearings shall be further subdivided into one or more of the following classes:

- 1) Fixed. These allow rotation in any direction but are fixed against translation.
- 2) Guided Expansion. These allow rotation in any direction but translation only in limited directions.
- 3) Non-Guided Expansion. These allow rotation and translation in any direction.

Suppliers: The Department maintains a pre-qualified list of proprietary structural systems allowed for High Load Multi-Rotational Bearings. This list can be found on the Departments web site under Prequalified Structural Systems. The Contractor's options are limited to those systems pre-qualified by the Department on the date that the contract was bid. These systems have been reviewed for structural feasibility and adequacy only. Presence on this list shall in no case relieve the Contractor of the site-specific design or QC/QA requirements stated herein.

The supplier shall notify the Department at least two weeks in advance of fabrication of the fabrication shop address. The fabricator shall provide evidence of current certification by AISC according to Article 106.08(e) of the Standard Specifications.

The overall depth dimension for the HLMR bearings shall be as specified on the plans. The horizontal dimensions shall be limited to the available bearing seat area.

Any modifications required to accommodate the bearings chosen shall be submitted to the Engineer for approval prior to ordering materials. Modifications may include the addition of steel filler plates or the adjustment of beam seat elevations. Adjustments to bridge seat elevations and accompanying reinforcement details shall be approved by the Structural Engineer of Record. Modifications required shall be made at no additional cost to the State. Inverted bearing or center-guided bearing configurations will not be permitted.

The Contractor shall comply with all manufacturer's material, fabrication and installation requirements specified.

Submittals. Shop drawings shall be submitted to the Engineer for approval according to Article 105.04 of the Standard Specifications. All steel filler plate details shall be included in the shop drawings. In addition the Contractor shall furnish certified copies of the bearing manufacturer's test reports on the physical properties of the component materials for the bearings to be furnished and a certification by the bearing manufacturer stating the bearing assemblies furnished conform to all the requirements shown on the plans and as herein specified. Submittals with insufficient test data and supporting certifications will be rejected.

Materials. The materials for the HLMR bearing assemblies shall be according to the following:

- (a) Elastomeric Materials. The rubber disc for Pot bearings shall be according to Article 1083.02(a) of the Standard Specifications.
- (b) Polytetrafluoroethylene (PTFE) Material. The PTFE material shall be according to Article 1083.02(b) of the Standard Specifications, except that it shall be dimpled lubricated with a maximum coefficient of friction of 0.02 on stainless steel. The dimpled and lubricated PTFE surface shall comply with AASHTO 14.7.2. The friction requirement shall be as specified in the Long Term Deterioration Test required for prequalification and the Sliding Friction Test as specified below.
- (c) Stainless Steel Sheets. The stainless steel sheets shall be of the thickness specified and shall be according to Article 1083.02(c).
- (d) Structural Steel. All structural steel used in the bearing assemblies shall be according to AASHTO M 270, Grade 50 (M 270M Grade 345), unless otherwise specified.
- (e) Threaded studs. The threaded stud, when required, shall conform to the requirements of Article 1083.02(d)(4) of the Standard Specifications.

- (f) Polyether Urethane for Disc bearings shall be according to all of the following requirements:

PHYSICAL PROPERTY	ASTM TEST METHOD	REQUIREMENTS	
Hardness, Type D durometer	D 2240	45 Min	65 Max
Tensile Stress, psi (kPa) At 100% elongation, min	D 412	1500 psi (10,350 kPa)	2300 psi (15,900 kPa)
Tensile Stress, psi (kPa) At 200% elongation, min	D 412	2800 psi (19,300 kPa)	4000 psi (27,600 kPa)
Tensile Strength, psi (kPa), min	D 412	4000 psi (27,600 kPa)	6000 psi (41,400 kPa)
Ultimate Elongation, %, min	D 412	350	220
Compression Set 22 hr. at 158 °F (70 °C), Method B %, max	D 395	40	40

The physical properties for a durometer hardness between the minimum and maximum values shown above shall be determined by straight line interpolation.

Design. The HLMR bearings shall be of the type and class specified and designed for the loads shown on the plans. Bearing details shown on the contract plans are a schematic representation of the bearing. Actual design of the bearing shall be by the supplier according to:

- the exact parameters specified in the Design Data table noted on the bridge plans,
- the appropriate AASHTO LRFD Bridge Design Specifications, and
- the IDOT Bridge Manual.

The design of the masonry and sole bearing plates are based on detail assumptions which may require modifications depending on the supplier chosen by the Contractor.

Fabrication. The bearings shall be complete factory-produced assemblies. They shall provide for rotation in all directions and for sliding, when specified, in directions as indicated on the plans. All bearings shall be furnished as a complete unit from one manufacturing source. All material used in the manufacture shall be new and unused with no reclaimed material incorporated into the finished assembly.

The translation capability for both guided and non-guided expansion bearings shall be provided by means of a polished stainless steel sliding plate that bears on a PTFE sheet bonded and recessed to the top surface of the piston or disc. The sliding element of expansion bearings shall be restrained against movement in the fixed direction by exterior guide bars capable of resisting the horizontal forces or 20 percent of the vertical design load on the bearing applied in any direction, whichever is greater. The sliding surfaces of the guide bar shall be of PTFE sheet and stainless steel. Guiding off of the fixed base, or any extension of the base, will not be permitted.

Structural steel plates shall be fabricated according to Article 505.04(l) of the Standard Specifications. Prior to shipment the exposed edges and other exposed portions of the structural steel plates shall be cleaned and given a corrosion protection coating as specified on the plans and according to the applicable Special Provisions and Articles 506.03 and 506.04 of the Standard Specifications. During cleaning and coating the stainless steel, PTFE sheet and neoprene shall be protected from abrasion and coating material.

PTFE sheets shall be bonded to steel under factory controlled conditions using heat and pressure for the time required to set the epoxy adhesive used. The PTFE sheet shall be free from bubbles and the sliding surface shall be burnished to an absolutely smooth surface.

The steel piston and the steel cylinder for pot bearings shall each be machined from a solid piece of steel. The steel base cylinder shall be either integrally machined, recessed into with a snug fit, or continuously welded to its steel masonry plate. If the sole plate and piston are not one piece, the piston shall be recessed $\frac{3}{8}$ inch into the sole plate.

If the bottom disc plate or base cylinder is recessed into the masonry plate, the designed thickness of the masonry plate shall take into account the depth of the recess. If the top disc plate is recessed into the sole plate, the designed thickness of the sole plate shall take into account the depth of the recess.

The shear resisting mechanism shall be machined from a solid piece of steel. Connection of the shear resisting mechanism to top and bottom disc plate shall be determined by the bearing fabricator.

Packaging. Each HLMR bearing assembly shall be fully assembled at the manufacturing plant and delivered to the construction site as complete units. The assemblies shall be packaged, crated or wrapped so the assemblies will not be damaged during handling, transporting and shipping. The bearings shall be held together with removable restraints so sliding surfaces are not damaged.

Centerlines shall be marked on both masonry and sole plates for alignment in the field. The bearings shall be shipped in moisture-proof and dust-proof covers.

Performance Testing. The following performance tests are required per lot on the project. A lot size shall be the number of bearings per class (fixed, guided expansion, non-guided expansion) on the project, but not to exceed 25 bearings per class. When multiple sizes of bearings are used on the same contract, they shall be grouped by class when determining lot sizes and amount of bearings to be tested. All tests shall be performed by the manufacturer prior to shipment.

Dimension Check. Each bearing shall be checked dimensionally to verify all bearing components are within tolerances. Failure to satisfy any dimensional tolerance shall be grounds for rejecting the bearing component or the entire bearing assembly.

Clearance Test. This test shall be performed on one bearing per lot. The bearing selected for this test shall be the one with the least amount of clearance based on the dimension check. The bearing assembly shall be loaded to its service limit state rated capacity at its full design rotation but not less than 0.02 radians to verify the required clearances exist. This test shall be performed twice for each bearing with the rotation oriented longitudinally with the bridge once in each direction. Any visual signs of rubbing or binding shall be grounds for rejection of the lot.

Proof Load Test. This test shall be performed on one bearing per lot. The bearing assembly shall be load tested to 150 percent of the service limit state rated capacity at a rotation of 0.02 radians. The load shall be maintained for 5 minutes, removed then reapplied for 5 minutes. If the load drops below the required value during either application, the test shall be restarted from the beginning. This test shall be performed twice for each bearing with the rotation oriented longitudinally with the bridge once in each direction.

The bearing shall be visually examined both during the test and upon disassembly after the test. Any resultant visual defects include, but are not limited to:

1. Extruded or deformed elastomer, polyether urethane, or PTFE.
2. Insufficient clearances such as evidence of metal to metal contact between the pot wall and the top or sole plate.
3. Damaged components such as cracked steel, damaged seal rings, or damaged limiting rings.
4. Bond failure.

If any of the above items are found it shall be grounds for rejection of the lot.

Sliding Friction Test. For expansion bearings, this test shall be performed on one bearing per lot. The sliding surfaces shall be thoroughly cleaned with a degreasing solvent. No lubrication other than that specified for the bearing shall be used. The bearing shall be loaded to its service limit state rated capacity for 1 hour prior to and throughout the duration of the sliding test. At least 12 cycles of plus and minus sliding with an amplitude equaling the smaller of the design displacement and 1 inch (25 mm) shall then be applied. The average sliding speed shall be between 0.1 inch and 1.0 inches (2.5 mm and 25 mm) per minute. The sliding friction coefficient shall be computed for each direction of each cycle and its mean and standard deviation shall be computed for the sixth through twelfth cycles.

The friction coefficient for the first movement and the mean plus two standard deviations for the sixth through twelfth cycles shall not exceed the design value used. In addition, the mean value for the sixth through twelfth cycles shall not exceed 2/3 of the design value used. Failure of either of these shall result in rejection of the lot.

The bearing shall also be visually examined both during and after the testing, any resultant defects, such as bond failure, physical destruction, or cold flow of the PTFE shall also be cause for rejection of the lot.

The Contractor shall furnish a notarized certification from the bearing manufacturer stating the HLMR bearings have been performance tested as specified, and a. purchase order prior to fabrication. The purchase order shall contain, as a minimum, the quantity and size of each type of bearing furnished. The notarized certifications and the purchase order shall be submitted in one package to the Engineer of Tests at the Bureau of Materials and Physical Research (126 East Ash Springfield, IL 62704). The Department reserves the right to perform any of the specified tests on one or more of the furnished bearings. If the tested bearing shows failure it shall be

replaced and the remaining bearings shall be similarly tested for acceptance at the Contractor's expense.

The manufacturer shall furnish samples of component materials used in the bearings, for testing by the Department, to the Engineer of Tests at the Bureau of Materials and Physical Research (126 East Ash Springfield, IL 62704). The required components shall be those components of HLMR bearings that are consistent with elastomeric bearing components according to Article 1083.04 of the Standard Specifications.

Installation. The HLMR bearings shall be erected according to Article 521.05 of the Standard Specifications.

Exposed edges and other exposed portions of the structural steel plates shall be field painted as specified for Structural Steel.

Basis of Payment. This work will be paid for at the contract unit price each for HIGH LOAD MULTI-ROTATIONAL BEARINGS, POT , FIXED; HIGH LOAD MULTI-ROTATIONAL BEARINGS, POT, GUIDED EXPANSION; HIGH LOAD MULTI-ROTATIONAL BEARINGS, POT, NON-GUIDED EXPANSION; HIGH LOAD MULTI-ROTATIONAL BEARINGS, DISC, FIXED; HIGH LOAD MULTI-ROTATIONAL BEARINGS, DISC, GUIDED EXPANSION; or HIGH LOAD MULTI-ROTATIONAL BEARINGS, DISC, NON-GUIDED EXPANSION of the load capacity specified.

When the fabrication and erection of HLMR bearings is accomplished under separate contracts, the applicable requirements of Article 505.09 shall apply.

Fabricated HLMR bearings and other materials complying with the requirements of this item, furnished and accepted, will be paid for at the contract unit price each for FURNISHING HIGH LOAD MULTI-ROTATIONAL BEARINGS, POT, FIXED; FURNISHING HIGH LOAD MULTI-ROTATIONAL BEARINGS, POT, GUIDED EXPANSION; FURNISHING HIGH LOAD MULTI-ROTATIONAL BEARINGS, POT, NON-GUIDED EXPANSION; FURNISHING HIGH LOAD MULTI-ROTATIONAL BEARINGS, DISC, FIXED; FURNISHING HIGH LOAD MULTI-ROTATIONAL BEARINGS, DISC, GUIDED EXPANSION; or FURNISHING HIGH LOAD MULTI-ROTATIONAL BEARINGS, DISC, NON-GUIDED EXPANSION of the load capacity specified.

Storage and care of fabricated HLMR bearings and other materials complying with the requirements of this item by the Fabrication Contractor beyond the specified storage period, will be paid for at the contract unit price per calendar day for STORAGE OF HIGH LOAD MULTI-ROTATIONAL BEARINGS if a pay item is provided for in the contract, or will be paid for according to Article 109.04 if a pay item is not provided in the contract.

HLMR bearings and other materials fabricated under this item erected according to the requirements of the specifications, and accepted, will be paid for at the contract unit price each for ERECTING HIGH LOAD MULTI-ROTATIONAL BEARINGS, POT, FIXED; ERECTING HIGH LOAD MULTI-ROTATIONAL BEARINGS, POT, GUIDED EXPANSION; ERECTING HIGH LOAD MULTI-ROTATIONAL BEARINGS, POT, NON-GUIDED EXPANSION; ERECTING HIGH LOAD MULTI-ROTATIONAL BEARINGS, DISC, FIXED; ERECTING HIGH LOAD MULTI-ROTATIONAL BEARINGS, DISC, GUIDED EXPANSION; or ERECTING HIGH LOAD MULTI-ROTATIONAL BEARINGS, DISC, NON-GUIDED EXPANSION of the load capacity specified.

CONCRETE WEARING SURFACE

Effective: June 23, 1994

Revised: October 17, 2025

Description. This work consists of placing a concrete wearing surface, to the specified thickness, on precast concrete members such as deck beams and deck panels. Included in this work is cleaning and preparing the precast concrete surface prior to placement of the concrete wearing surface. This work shall be according to the applicable articles of Section 503 and the following.

Materials. The concrete wearing surface shall be class BS concrete.

Equipment: The equipment used shall be subject to the approval of the Engineer and shall meet the following requirements:

(a) Surface Preparation Equipment. Surface preparation equipment shall be according to the applicable portions of Section 1100 and the following:

(1) Hand-Held Blast Cleaning Equipment. Blast cleaning using hand-held equipment may be performed by high-pressure waterblasting or abrasive blasting. Hand-held blast cleaning equipment shall have oil traps.

Hand-held high-pressure waterblasting equipment shall have a minimum water pressure of 7000 psi (48 MPa).

(2) Vacuum Cleanup Equipment. The equipment shall be equipped with fugitive dust control devices capable of removing wet debris and water all in the same pass. Vacuum equipment shall also be capable of washing the deck with pressurized water prior to the vacuum operation to dislodge all debris and slurry from the deck surface.

(b) Concrete Equipment: Equipment for proportioning and mixing the concrete shall be according to Article 1020.03.

(c) Finishing Equipment. Finishing equipment shall be according to Article 503.03.

(d) Mechanical Fogging Equipment. Mechanical fogging equipment shall be according to 503.03.

Construction Requirements

Surface Preparation. Prior to placement of the concrete wearing surface, the top surface of the precast concrete members shall be clean and free of all foreign material.

All debris of every type, including dirty water, resulting from the cleaning operation shall be reasonably confined during the performance of the cleaning work and shall be immediately and thoroughly removed from the cleaned surfaces and all other areas where debris may have accumulated.

Prior to placement of the concrete wearing surface, the Engineer will inspect the cleaned surface, all areas still contaminated shall be cleaned again at the Contractor's expense.

Wearing Surface Placement. The concrete wearing surface placement shall be according to Article 503.16 of the Standard Specifications. Areas to receive the overlay shall be either thoroughly or continuously wetted with water at least one hour before placement of the concrete wearing surface is started. When the surface is pre-wetted any accumulations of water shall be dispersed or removed prior to placement of the concrete wearing surface.

Plans for anchoring support rails and the mixture-placing procedure shall be submitted to the Engineer for approval.

Curing and Protection. The concrete shall be continuously wet cured for at least 14 days according to Article 1020.13(a)(5). However, if the minimum specified compressive strength or flexural strength is obtained prior to 14 days, the cure time may be reduced, but at no time shall the wet cure be less than 7 days. The concrete shall be protected from low air temperatures according to Article 1020.13(d)(1) or (2), except the protection method shall remain in place for the entire curing period.

Opening to Traffic. The concrete wearing surface may be opened to traffic when test specimens have obtained a minimum compressive strength of 4000 psi (27,500 kPa) or a minimum flexural strength of 675 psi (4650 kPa), but not prior to the completion of the wet cure.

Method of Measurement. Concrete wearing surface will be measured for payment in place and the area computed in square yards (square meters).

Basis of Payment. This work including cleaning and surface preparation will be paid for at the contract unit price per square yard (square meter) for CONCRETE WEARING SURFACE, of the thickness specified.

SLIPFORM PARAPET

Effective: June 1, 2007

Revised: April 15, 2022

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

- (3) Slipforming parapets. Unless otherwise prohibited herein or on the plans, at the option of the Contractor, concrete parapets on bridge decks may be constructed by slipforming in lieu of the conventional forming methods. Slipforming will not be permitted for curved parapets on a radius of 1500 ft (457 m) or less.

The slipform machine shall be self-propelled and have automatic horizontal and vertical grade control. For 34 in. (864 mm) and 39 in. (991 mm) tall parapets the machine shall be equipped with a minimum of four (4) vibrators. For 42 in. (1.067 m) and 44 in. (1.118 m) tall parapets the machine shall be equipped with a minimum of five (5) vibrators. The equipment shall be approved by the Engineer before use.

If the Contractor wishes to use the slipform parapet option for 42 in. (1.067 m) or 44 in. (1.118 m) tall parapets he/she shall construct an acceptable test section in a temporary location to demonstrate his/her ability to construct the parapets without defect. The test section shall be constructed under similar anticipated weather conditions, using the same means and

methods, equipment, equipment vibrator settings, travel speed, operator, concrete plant, concrete mix design, and slump as proposed for the permanent slipform parapets.

The test section shall be at least 30 feet (9 meters) in length and shall be of the same cross section shown on the plans. The contractor shall place all of the reinforcement embedded in the parapet as shown on the plans. Upon completion of the test section, the Contractor shall saw cut the test section into 2 ft (600 mm) segments and separate the segments for inspection by the Engineer. Test sections containing segments showing voids adjacent to a reinforcement bar, 1/4 square inch (160 square millimeters) or more in area and extending along the reinforcement bar into the section, or showing excessive voids not adjacent to reinforcement bars 1/4 square inch (160 square millimeters) or more in area, or showing cracking extending through a segment, shall be considered unacceptable.

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

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

The slipform machine travel speed shall not exceed the lesser of 3 ft (0.9 m) per minute, or the speed used to construct the acceptable test section. Any time the speed of the machine drops below 0.5 ft (150 mm) per minute will be considered a stoppage of the slipforming operation, portions of parapet placed with three or more intermittent stoppages within any 15 ft (4.6 m) length will be rejected. The contractor shall schedule concrete delivery to maintain a uniform delivery rate of concrete into the slipform machine. If delivery of concrete from the truck into the slipforming machine is interrupted by more than 15 minutes, the portion of the wall within the limits of the slipform machine will be rejected.

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

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

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

Glass Fiber Reinforced Polymer (GFRP) reinforcement shall be subject to approval by the Engineer. Other non-ferrous reinforcement may be proposed for use but shall be subject to approval by the Engineer. GFRP reinforcement shall be tied the same as stated in the previous paragraph.

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

Clearances for these bars shall be the same as shown for the required bars and these bars shall be epoxy coated. If the additional reinforcement is used, it shall be at no additional cost to the Department.

For projects with plan details specifying parapet joints spaced greater than 20 ft (6 m) apart, additional sawcut joints, spaced between 10 ft (3 m) and 20 ft (6 m), shall be placed as directed by the Engineer. The horizontal reinforcement extending through the proposed joints shall be precut to provide a minimum of 4 in. (100 mm) gap, centered over the joint, between rebar ends. The ends of the reinforcement shall be repaired according to Article 508.04.

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

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

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

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

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

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

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

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

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

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

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

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

Slipformed parapets shall be wet cured according to either Article 1020.13(a)(3) or Article 1020.13(a)(5). For either method, the concrete surface shall be covered within 30 minutes after it has been finished. The cotton mat or burlap covering shall be held in place with brackets or another method approved by the Engineer. The Contractor shall have the option, during the period from April 16 through October 31, to delay the start of wet curing by applying a linseed oil emulsion curing compound. Exercising this option waives the requirement for protective coat according to Article 503.19. The linseed oil emulsion shall be according to Article 1022.01 and shall be applied according to Articles 1020.13 Notes-General 8/ and 1020.13(a)(4). The delay for wet curing shall not exceed 3 hours after application of the linseed oil emulsion.

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

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

The Engineer or his/her representative will be responsible for evaluation the cores. Any cores showing voids adjacent to a reinforcement bar 1/4 square inch (160 square millimeters) or more in area and extending along the reinforcement bar into the section, or showing excessive voids not adjacent to reinforcement bars 1/4 square inch (160 square millimeters) or more in area, or showing cracking, shall be considered unacceptable and the parapet section from which it was taken will be rejected. Parapets with less than 1½ inches of concrete cover over the reinforcement shall be rejected.

Rejected parapet sections shall be removed and replaced for the full depth cross-section of the parapet except that concrete cover between 1 inch and 1½ inches may be open to remedial action subject to the approval of the Engineer. Such action could entail up to and including removal and replacement.

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

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

If reinforcement bars are damaged during the removal and replacement, additional removal and replacement shall be done, as necessary, to ensure minimum splice length of replacement bars. Any damage to epoxy coating of bars shall be repaired according to Article 508.04.

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

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

BRIDGE DECK CONSTRUCTION

Effective: October 22, 2013

Revised: December 21, 2016

When Diamond Grinding of Bridge Sections is specified, hand finishing of the deck surface shall be limited to areas not finished by the finishing machine and to address surface corrections according to Article 503.16(a)(2). Hand finishing shall be limited as previously stated solely for the purpose of facilitating a more timely application of the curing protection. In addition the requirements of 503.16(a)(3)a. and 503.16(a)(4) will be waived.

Revise the Second Paragraph of Article 503.06(b) to read as follows.

“When the Contractor uses cantilever forming brackets on exterior beams or girders, additional requirements shall be as follows.”

Revise Article 503.06(b)(1) to read as follows.

- “(1) Bracket Placement. The spacing of brackets shall be per the manufacturer’s published design specifications for the size of the overhang and the construction loads anticipated. The resulting force of the leg brace of the cantilever bracket shall bear on the web within 6 inches (150 mm) of the bottom flange of the beam or girder.”

Revise Article 503.06(b)(2) to read as follows.

- “(2) Beam Ties. The top flange of exterior steel beams or girders supporting the cantilever forming brackets shall be tied to the bottom flange of the next interior beam. The top flange of exterior concrete beams supporting the cantilever forming brackets shall be tied to the top flange of the next interior beam. The ties shall be spaced at 4 ft (1.2 m) centers. Permanent cross frames on steel girders may be considered a tie. Ties shall be a minimum of 1/2 inch (13 mm) diameter threaded rod with an adjusting mechanism for drawing the tie taut. The ties shall utilize hanger brackets or clips which hook onto the flange of steel beams. No welding will be permitted to the structural steel or stud shear connectors, or to reinforcement bars of concrete beams, for the installation of the tie bar system. After installation of the ties and blocking, the tie shall be drawn taut until the tie does not vary from a straight line from beam to beam. The tie system shall be approved by the Engineer.”

Revise Article 503.06(b)(3) to read as follows.

- “(3) Beam Blocks. Suitable beam blocks of 4 in x 4 in (100 x 100 mm) timbers or metal structural shapes of equivalent strength or better, acceptable to the Engineer, shall be wedged between the webs of the two beams tied together, within 6 inches (150 mm) of the bottom flange at each location where they are tied. When it is not feasible to have the resulting force from the leg brace of the cantilever brackets transmitted to the web within 6 inches (150 mm) of the bottom flange, then additional blocking shall be placed at each bracket to transmit the resulting force to within 6 inches (150 mm) of the bottom flange of the next interior beam or girder.”

Delete the last paragraph of Article 503.06(b).

METALLIZING OF STRUCTURAL STEEL

Effective: October 4, 2016

Revised: October 20, 2017

Description: This work consists of furnishing all materials, equipment, labor, and other essentials necessary to accomplish the surface preparation and application of thermal spray metallizing to all new structural steel, or portions thereof as detailed in the plans, in the shop. Also included in this work, when specified on the Contract plans, is the application of a paint system over the metallizing in the shop and/or in the field.

Materials: Materials shall be according to the following.

Metallizing Wire: All thermal spray feedstock (metallizing wire) shall be the products of a single manufacturer, meet the requirements below, and meet the thermal spray equipment manufacturer's specifications.

- a. The metallizing wire shall consist of 99.9% zinc or 85/15 zinc/aluminum complying with ASTM B-833 and ANSI/AWS C2.25/C2.25M
- b. The Contractor shall provide a certificate of chemical composition of the proposed metallizing wire from the metallizing wire manufacturer.

Paint: All materials to be used on an individual structure shall be produced by the same manufacturer.

The Bureau of Materials and Physical Research has established a list of all paint products that have met preliminary requirements. Each batch of material, except for the clear aliphatic urethane and the penetrating sealer shall be tested and approved for use. The specified colors shall be produced in the coating manufacturer's facility. Tinting of coating after it leaves the manufacturing facility is not allowed.

The paint materials shall meet the following requirements of the Standard Specification and as noted below:

<u>Item</u>	<u>Article</u>
(a) Waterborne Acrylic	1008.04
(b) Aluminum Epoxy Mastic (Note 1)	1008.03
(c) Epoxy/ Aliphatic Urethane (Note 1)	1008.05
(d) Penetrating Sealer (Note 2)	
(e) Clear Aliphatic Urethane (Note 3)	

Note 1: If the finish coats are being applied in the field over a shop applied epoxy, select an epoxy intermediate for shop application with a recoat window that is long enough to support the construction schedule.

Note 2: The Epoxy Penetrating Sealer shall be a cross-linked multi component sealer. The sealer shall have the following properties:

- (a) The volume solids shall be 98 percent (plus or minus 2 percent).
- (b) Shall be clear or slightly tinted color.

Note 3: The Clear Aliphatic Urethane material shall be one of the following products:

- (a) Carbothane Clear Coat by Carboline Company
- (b) Pitthane Ultra Clear 95-8000 by Pittsburgh Paints (PPG)
- (c) ArmorSeal Rexthane I MCU by Sherwin-Williams

Shop Prequalification: The Contractor performing the shop work shall have either an SSPC-QP 3 Certification or an AISC Sophisticated Paint Endorsement certification. The certification(s) shall remain current throughout the duration of the contract.

The Contractor performing the shop work shall have satisfactorily performed a minimum of three (3) previous projects involving abrasive blast cleaning, metallizing, and paint application. At least one project within the past two (2) years shall have involved a bridge or similar industrial type application. The suitability of the Contractor's qualifications and prior experience will be considered by the Department before granting approval to proceed.

Submittals: The Contractor performing the shop work shall submit the following plans and information for Engineer review and acceptance within 30 days of contract execution (unless written permission from the Engineer states otherwise). When full coats are being applied in the field, the field painting contractor shall comply with the submittal requirements of Article 506.03. Work in the shop or field shall not proceed until submittals are accepted by the Engineer.

- (a) **Contractor Personnel Qualifications:** Evidence of experience and the names and qualifications/experience/training of the personnel managing and implementing the Quality Control program, and for those performing the quality control tests. QC personnel qualification requirements are found under "Quality Control (QC) Inspection."

All metallizing applicators shall be qualified in accordance with AWS C2.16/C2.16M.

- (b) **Quality Control (QC) Plan:** A Quality Control Plan that identifies: test instruments to be used, a schedule of required measurements and observations, procedures for correcting unacceptable work, and procedures for improving surface preparation and metallizing/painting quality as a result of quality control findings. The program shall incorporate the IDOT Quality Control Daily Report Forms as supplied by the Engineer, or equivalent information on Engineer-approved Shop Contractor-designed forms.
- (c) **Surface Preparation Plan:** The surface preparation plan shall include the methods of surface preparation and types of equipment that will be used to prepare the surfaces as specified herein. Also any solvents proposed for solvent cleaning shall be identified and MSDS provided.
- (d) **Abrasives:** Identify the type and brand name of the abrasive proposed for use, provide MSDS and manufacturer's data indicating that the abrasive meets requirements of the SSPC-AB 1 or AB 3 standards as specified herein.
- (e) **Metallizing Plan:** Written procedures for the shop application of metallizing, including the brand name and type of metallizing wire and application equipment to be used. Proof that the metallizing wire complies with ASTM B-833 and ANSI/AWS C2.25/C2.25M shall also be provided. Provide written documentation verifying that all metallizing applicators are qualified in accordance with ANSI/AWS C2.16/C2.16M.
- (f) **Painting Plan:** If shop painting is specified to be applied over the metallizing or if galvanizing is used in lieu of metallizing on minor bridge members, procedures for the application of the coating system shall be provided along with MSDS and product data sheets. A description of the application equipment to be used shall be included. The plan shall include the requirements to be followed by the field contractor for field touch up.

- (g) Shipping and Handling Plan: A written plan outlining the precautions that shall be taken for the protection of the finished surface during shipping and handling. The plan shall address the steps to be taken, such as insulating padding, wood dunnage, load securing strapping, binding apparatus, etc.
- (h) Galvanizing Option: At the Contractor's option, hot dip galvanizing may be proposed as a substitute for shop metallizing of bearings, typical cross frames, or diaphragms on non-curved structures; expansion joint assemblies; and other elements not carrying calculated stress. Submittal requirements are found under "Hot Dip Galvanizing Option." Include the proposed cleaning and painting plan.

The Engineer will provide written notification to the Contractor when submittals are complete and acceptable. No surface preparation work shall begin until that notification is received. This acceptance shall not be construed to imply approval of any particular method or sequence for conducting the work, or for addressing health and safety concerns. Acceptance does not relieve the Contractor from the responsibility to conduct the work according to the requirements of Federal, State, or Local regulations and this specification, or to adequately protect the health and safety of all workers involved in the project and any members of the public who may be affected by the project. The Contractor remains solely responsible for the adequacy and completeness of the programs and work practices, and adherence to them.

Quality Control (QC) Inspections: The Contractor performing the shop work shall perform first line, in process QC inspections. The Contractor shall implement the accepted QC Program to insure that the work complies with these specifications. The designated Quality Control inspector shall be onsite full time during any operations that affect the quality of the system (e.g., surface preparation, metallizing application, paint application, and final inspection at project completion). The Contractor shall use the IDOT Contractor Daily (QC) Metallizing & Painting Report form (supplied by the Engineer, or Engineer-approved Contractor-designed forms that contain the same information, to record the results of quality control tests and inspections. The completed reports shall be given to the Engineer before work resumes the following day.

QC inspections shall include, but are not limited to the following:

- Ambient conditions.
- Surface preparation (solvent cleaning, abrasive blast cleanliness, surface profile depth, etc.).
- Metallizing application (specified materials used, bend test, continuity and coverage, adhesion, dry film thickness).
- Verification that the MISTIC test ID number for the paint system has been issued when painting is specified.
- Paint Application (when specified)(specified materials used, continuity and coverage, dry film thickness, freedom from overspray, dry spray, pinholes, skips, misses, etc.).

The personnel managing the QC Program shall possess a minimum classification as a NACE CIP Level 2, or shall provide evidence of successful inspection of three projects of similar or greater complexity and scope completed in the last two years. References shall include the name, address, and telephone number of a contact person employed by the facility owner.

The personnel performing the QC tests shall be trained in all tests, inspections, and instrument use required for the inspection of surface preparation, metallizing and paint application. Documentation of training shall be provided. The QC personnel shall be solely dedicated to quality control activities and shall not perform any production work. QC personnel shall take the lead in all inspections, but applicators shall perform wet film thickness measurements during application of the coatings, with QC personnel conducting random spot checks. The Contractor shall not replace the QC personnel assigned to the project without advance notice to the Engineer, and acceptance of the replacement(s), by the Engineer.

The Contractor performing the shop work shall supply all necessary equipment to perform the QC tests and inspections as specified. Equipment shall include the following at a minimum:

- Psychrometer or comparable equipment for measurement of dew point and relative humidity, including weather bureau tables or psychrometric charts
- Surface temperature thermometer
- SSPC Visual Standard VIS 1
- Surface profile replica tape and spring micrometer or electronic micrometer designed for use with replica tape; or electronic profilometer designed for measuring blast profile.
- Blotter paper for compressed air cleanliness checks
- Type 2 Electronic Dry Film Thickness Gage
- Calibration standards for dry film thickness gage
- Bend test coupons and bend test mandrel
- Adhesion testing instrument
- Companion panels for adhesion testing (if that option is selected)
- All applicable ASTM, ANSI, AWS, and SSPC Standards used for the work (reference list attached)

The instruments shall be verified for accuracy and adjusted by the Contractor's personnel in accordance with the equipment manufacturer's recommendations and the Contractor's QC Program. All inspection equipment shall be made available to the Engineer for QA observations as needed.

Hold Point Notification: Specific inspection and testing requirements within this specification are designated as Hold Points. Unless other arrangements are made, the Contractor shall provide the Engineer with a minimum four-hour notification in advance of the Hold Point. If four-hour notification is provided and the work is ready for inspection at that time, the Engineer will conduct the necessary observations. If the work is not ready at the appointed time, unless other arrangements are made, an additional four-hour notification is required. Permission to proceed

beyond a Hold Point without a QA inspection will be at the sole discretion of the Engineer and will only be granted on a case-by-case basis.

Quality Assurance (QA) Observations: The Engineer will conduct QA observations of any or all phases of the work. The presence or activity of Engineer observations in no way relieves the Contractor of the responsibility to perform all necessary daily QC inspections of their own and to comply with all requirements of this Specification.

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

CONSTRUCTION REQUIREMENTS

The surface preparation and metallizing shall be according to the SSPC Specification for the Application of Thermal Spray Coatings (Metallizing) of Aluminum, Zinc and their Alloys and Composites for the Corrosion Protection of Steel, SSPC-CS 23.00/AWS C2.23M/NACE No. 12 except as modified herein. In the event of a conflict, the requirements of this specification shall prevail.

Hot Dip Galvanizing Option: At the Contractor's option, hot dip galvanizing may be substituted for shop metallizing of bearings, typical cross frames, or diaphragms on non-curved structures; expansion joint assemblies; and other elements not carrying calculated stress. Galvanized surfaces which shall have concrete poured against them shall be chemically passivated or otherwise protected by a method approved by the Engineer. Galvanized bearings for exterior members and elements readily visible after erection shall be prepared for field painting, but galvanized items obscured from public view will not require field painting. The Contractor shall submit a proposal for substituting galvanizing to the Engineer, showing items to be field painted, applicable provisions of AASHTO M 111 (ASTM A 123), drain/vent holes and any other necessary modifications.

Notification: The Contractor shall notify the Engineer 24-hours in advance of beginning surface preparation operations.

Surface Preparation, Metallizing and Painting Equipment: The Contractor shall provide surface preparation, metallizing, and painting equipment as needed to perform the work as specified herein.

Metallizing application equipment shall be portable electric arc thermal spray units that are set-up, adjusted and operated in accordance with the manufacturer's written instructions.

All cleaning and painting equipment shall include gages capable of accurately measuring fluid and air pressures and shall have valves capable of regulating the flow of air, water or paint as recommended by the equipment manufacturer. The equipment shall be maintained in proper working order.

Diesel or gasoline powered equipment shall be positioned or vented in a manner to prevent deposition of combustion contaminants on any part of the structure.

Hand tools, power tools, pressure washing, water jetting, abrasive blast cleaning equipment, brushes, rollers, and spray equipment shall be of suitable size and capacity to perform the work required by this specification. Appropriate filters, traps and dryers shall be provided for the

compressed air used for abrasive blast cleaning and conventional spray application. Paint pots shall be equipped with air operated continuous mixing devices unless prohibited by the coating manufacturer.

Test Areas (Sections): Prior to proceeding with production work on the project, the Contractor shall prepare test sections of at least 10 square feet (0.93 sq. m). More than one test section may be needed to represent the various design configurations of the structure. The test section(s) shall be blast cleaned, metallized and painted (if specified) in accordance with the requirements specified herein using the same equipment, materials and procedures that will be used for the production.

During the blast cleaning, metallizing, and painting of the test section(s), in the presence of the Engineer, the Contractor shall perform all quality control tests and inspections required by this specification including complete documentation. In addition, the Contractor shall allow sufficient time for the Engineer to perform any or all quality assurance tests and inspections desired.

Production work shall not proceed until the Engineer agrees that the blast cleaning, metallizing, and painting work, along with the quality control testing, inspection, and documentation are acceptable.

No additional compensation will be paid for the preparation of the test section(s).

Protective Coverings and Damage: The Contractor shall apply protective coverings to all surfaces of the structural steel that are not scheduled for surface preparation, metallizing, and painting. The coverings shall be maintained and remain in place until the work is completed and then shall be removed prior to shipping.

Metallized or painted surfaces damaged by any Contractor's operation shall be repaired, and re-metallized and/or re-painted, as directed by the Engineer, at no additional cost to the Department.

Ambient Conditions: Surfaces prepared for metallizing or painting shall be free of moisture and other contaminants. The Contractor shall control operations to insure that dust, dirt, or moisture do not come in contact with surfaces on which work will take place. The surface temperature shall be at least 5°F (3°C) above the dew point during final surface preparation operations, and the application of metallizing. Metallizing shall only be applied when the surface and air temperatures are above 32°F (0°C). The manufacturers' published literature shall be followed for specific temperature, dew point, and humidity restrictions during the application of each paint coat. Metallizing or paint shall not be applied in rain, wind, snow, fog or mist. Ambient conditions shall be maintained during the drying period specified by the manufacturer.

Compressed Air Cleanliness: Prior to using compressed air for abrasive blast cleaning, blowing down surfaces, and metallizing or painting application, the Contractor shall verify that the compressed air is free of moisture and oil contamination according to the requirements of ASTM D 4285. The tests shall be conducted at least one time per shift for each compressor system in operation. If air contamination is evident, the Contractor shall change filters, clean traps, add moisture separators or filters, or make other adjustments as necessary to achieve clean, dry air. The Contractor shall also examine the work performed since the last acceptable test for evidence of defects or contamination caused by the contaminated compressed air. Contaminated work shall be repaired at no additional cost to the Department.

Solvent Cleaning (HOLD POINT): All traces of oil, grease, and other detrimental contaminants on the steel surfaces to be metallized shall be removed by solvent cleaning in accordance with SSPC-SP 1. The brand name of proposed cleaning solvent(s) and/or proprietary chemical cleaners including manufacturers' product data sheet and MSDS shall be submitted for Engineer acceptance prior to use.

Under no circumstances shall blast cleaning be performed in areas containing surface contaminants or in areas where the Engineer has not accepted the solvent cleaning. Rejected surfaces shall be re-cleaned to the specified requirements at no additional cost to the Department.

Abrasives: Abrasive blast cleaning shall be performed using either expendable abrasives or recyclable steel grit abrasives. Expendable abrasives shall be used one time and discarded. The abrasive shall be angular in shape. Acceptable angular shaped abrasives include, but are not limited to, aluminum oxide, steel grit, and crushed slag. Silica sand shall not be used. Steel shot and other abrasives producing a rounded surface profile are not acceptable, even if mixed with angular grit abrasives.

Abrasive suppliers shall provide written certification that expendable abrasives and recyclable steel grit abrasives meet the requirements of SSPC-AB 1 and AB 3, respectively. Abrasive suppliers shall certify that abrasives are not oil contaminated and shall have a water extract pH value within the range of 6 to 8. On a daily basis, the Contractor shall verify that recycled abrasives are free of oil and contamination by performing a vial test in accordance with SSPC-AB 2.

All surfaces that are found to have been prepared using abrasives not meeting the SSPC-AB 1, AB 2, or AB 3 requirements, as applicable, are oil contaminated, or have a pH outside the specified range, shall be solvent cleaned or low pressure water cleaned, and re-blast cleaned at no cost to the Department.

Surface Preparation (HOLD POINT): The following method of surface preparation shall be used:

- (a) **Flame Cut Steel:** Prior to blast cleaning, all flame cut edges shall be ground to remove hardened steel and any sharp or irregular shapes.
- (b) **Near-White Metal Blast Cleaning:** All steel surfaces to be metallized shall be near white metal blast cleaned in accordance with SSPC-SP 10 using dry abrasive blast cleaning methods.
- (c) **Galvanized Minor Bridge Members:** If galvanizing of minor bridge members is selected in lieu of metallizing, prepare all galvanized surfaces for painting by brush-off blast cleaning in accordance with SSPC-SP 16 or by using proprietary solutions that are specifically designed to clean and etch (superficially roughed) galvanized steel for painting. If cleaning and etching solutions are selected, submit manufacturer's technical product literature and MSDS for Engineer's review and written acceptance prior to use.
- (d) **Base Metal Irregularities:** If hackles, burrs, or slivers in the base metal are visible on the steel surface after cleaning, the Contractor shall remove them by grinding followed by re-blast cleaning.

Surface Profile (HOLD POINT): Blast cleaning abrasives shall be of the size and grade that will produce a uniform angular surface profile depth of 3.5 to 4.5 mils (89 to 114 microns). If the metallizing wire manufacturer's profile requirements are more restrictive, the Contractor shall advise the Engineer and comply with those requirements. For recycled abrasives, an appropriate operating mix shall be maintained in order to control the profile within these limits.

The average surface profile shall be determined each work day with a minimum frequency of one location per every 200 sq ft (18.6 sq m) per piece of equipment. All surfaces, including flame cut edges, shall be tested in accordance with SSPC-PA 17. Surface profile replica tape or electronic profilometer shall be used. The tape shall be retained and included with the daily QC report. Single measurements less than 3.5 mils (89 microns) are unacceptable. In that event, additional testing shall be done to determine the limits of the deficient area and, if it is not isolated, work will be suspended. The Contractor shall submit a plan for making the necessary adjustments to insure that the specified surface profile is achieved on all surfaces. Work shall not resume until the Engineer provides written acceptance.

Surface Condition Prior to Metallizing (HOLD POINT): Prepared surfaces shall meet the requirements of SSPC-SP 10 immediately prior to metallizing, and shall be metallized within six hours of blast cleaning. If rust appears or bare steel has been exposed for more than six hours, the affected area shall be re-blasted at no additional cost to the Department.

All dust and surface preparation residue on steel surfaces shall be removed prior to metallizing.

The quality of surface preparation and cleaning of surface dust and debris shall be accepted by the Engineer prior to metallizing.

The Engineer has the right to reject any work that was performed without adequate provision for QA observations to accept the degree of cleaning. Rejected metallizing work shall be removed and replaced at no additional cost to the Department.

Daily Metallizing Operator-Equipment Qualification – Bend Tests: Unless directed otherwise by the Engineer, each day that metallizing will be applied, the Contractor shall perform bend testing prior to beginning production work. For each metallizing applicator, five carbon steel coupons measuring 2 inch wide x 8 inch long x 0.05 inch (50mm x 400 mm x 1.3 mm) thick shall be blast cleaned using the same equipment and abrasive used for the production work. Each applicator shall apply the metallizing to five coupons in accordance with the requirements of this Specification to a dry film thickness of 8.0 to 12.0 mils (200 to 300µm). 180 degree bend testing shall be performed on all five coupons using a 13mm (1/2") mandrel in accordance with the requirements and acceptance criteria of SSPC-CS 23/AWS C2.23M/NACE 12. Minor cracks that cannot be lifted from the substrate with knife blade are acceptable. If lifting occurs on any coupon, the surface preparation and/or metallizing process shall be modified until acceptable results are achieved before proceeding with production work.

Application of Metallizing: Application shall be done in overlapping passes in a cross-hatch pattern (i.e., a second set of overlapping passes shall be applied at right angles to the first set of overlapping passes) to ensure uniform coverage. The gun shall be held at such a distance from the work surfaces that the metal is still molten on impact. The metallizing shall be applied as a continuous film of uniform thickness, firmly adherent, and free from thin spots, misses, lumps or blisters, and have a fine sprayed texture. Thin spots and misses shall be re-metallized. If touch up metallizing or the application of additional metallizing to previously applied metallizing does not occur within 24 hours, the surface of the metallizing shall be brush off blast cleaned according

to SSPC-SP7 to remove oxidation and surface contaminates prior to the application of additional metallizing. The final appearance of the metallizing when left un-top coated or top coated with System 1 shall be uniform without excessive blotchiness or contrast in color. If the surface does not have a uniform appearance, remove and replace the metallizing at no cost to the Department. If the configuration of the surface being metallized does not allow for a proper gun-to-work piece standoff distance, the Contractor shall notify the Engineer.

Unless required by the contract plans, the top of the top flanges shall not be metallized or painted. If the contract plans indicate that the top flange is to be metallized, only the first coat of the paint system shall be applied to the top flange.

Metallizing Thickness: The thickness of the metallizing shall be 8.0 to 12.0 mils (200-300 microns). Thickness shall be measured as specified by SSPC-PA 2 (use a Type 2 Electronic Gauge only).

Metallizing Adhesion: Adhesion testing of metallizing applied each day shall be determined with a self-adjusting adhesion tester in accordance with ASTM D 4541. Unless otherwise directed by the Engineer, a minimum of one test shall be conducted for every 500 sq ft (46sq m) of metallized surface. The tests shall be conducted prior to application of any coating. If any of the tests exhibit less than 700 psi (4.83 MPa) for 85/15 or less than 500 psi (3.45 MPa) for zinc, additional tests shall be conducted to determine the extent of the deficient material. All deficient metallizing shall be removed by blast cleaning and re-applied at no additional cost to the Department.

At the discretion of the Engineer, a representative blast cleaned test panel (or steel companion panel approximately 12 inch x 12 inch x ¼ inch thick) can be metallized at the same time each 500 sq ft (46sq m) of surface area, or portion thereof, is metallized. Adhesion testing can be performed on the companion panel rather than on the structure. If the adhesion tests on the panels are acceptable, the metallizing on the structure is considered acceptable and testing on the structure is not required. If adhesion testing of the panels fails, testing shall be conducted on the structure. If adhesion testing on the structure is acceptable, the metallizing on the structure is considered to be acceptable. If tests on the structure are unacceptable, complete removal of the failing metallizing and re-metallizing in accordance with this Specification shall be performed at no additional cost to the Department.

Application of Paint Systems Over Metallizing:

When painting over the metallizing is specified, three painting system options exist for application over the metallizing as shown below. Systems, or components of systems, specified to be shop applied shall not be applied to the faying surfaces of bolted connections. The system to be applied shall be as designated on the plans.

- (a) **System 1** is a single coat system consisting of a full clear aliphatic urethane coat shop applied to all metallized surfaces except as noted above.

The thickness of the clear coat to be applied is dependent on the product selected and shall be as follows:

TABLE 1

CLEAR URETHANE COAT (SINGLE COAT SYSTEM)

MANUFACTURER	SEALER COAT ONLY (DFT)
Carboline Company	Carbothane Clear Coat (3.0 to 5.0 mils) (75 to 125 microns)
Pittsburgh Paints (PPG)	Pitthane Ultra Clear 95-8000 (2.0 to 3.0 mils) (50 to 75 microns)
Sherwin-Williams	ArmorSeal Rexthane I MCU (3.0 to 5.0 mils) (75 to 125 microns)

The clear urethane shall be applied in a 2 step process. The first step shall be to apply a “mist coat” that is thinned at the maximum allowable thinning rate as listed on the manufacturer’s product data sheet that is compliant with VOC regulations. The intent of the mist coat is to saturate the porous metallizing surface and displace entrapped air within the porosity of the metallizing. After allowing the mist coat to flash off for 20 minutes, the full coat of clear urethane shall be applied to achieve the manufacturer’s recommended dry film thickness.

- (b) **System 2** is a four coat system consisting of a full shop coat of epoxy penetrating sealer coat, a full shop coat of an extended recoat epoxy and two full field applied coats of waterborne acrylic.

The epoxy penetrating sealer shall be applied in accordance with the coating manufacturer’s instructions at a coverage rate designed to achieve a theoretical dry film thickness of 1.5 mils (38 microns). The intent of the epoxy penetrating sealer coat is to saturate the metallizing and cover the surface rather than to build a film thickness; therefore, dry film thickness measurement of the epoxy penetrating sealer coat is not required. The top of top flanges that are specified to be metallized and embedded in concrete shall receive the epoxy penetrating sealer only.

The thicknesses of the epoxy and waterborne acrylic coats shall be according to Article 506.09(f)(1).

- (c) **System 3** is a three coat system consisting of a full epoxy penetrating sealer coat, a full epoxy intermediate coat, and a full urethane finish coat. All coats shall be shop-applied unless specified otherwise. If the urethane is field-applied, an extended recoat epoxy shall be applied in the shop.

The epoxy penetrating sealer shall be applied in accordance with the coating manufacturer's instructions at a coverage rate designed to achieve a theoretical dry film thickness of 1.5 mils (38 microns). The intent of the epoxy penetrating sealer coat is to saturate the metallizing and cover the surface rather than to build a film thickness; therefore, dry film thickness measurement of the epoxy penetrating sealer coat is not required. The top of top flanges that are specified to be metallized and embedded in concrete shall receive the epoxy penetrating sealer only.

The thicknesses of the epoxy and urethane coats shall be according to Article 506.09(f)(2).

The single clear urethane coat or the epoxy penetrating sealer coat shall be applied within 24 hours of metallizing providing that the immediate work environment is controlled. If temperature and humidity cannot be controlled, that time frame shall be reduced to within 8 hours. The metallizing shall be dry and free of any visible debris or oxidation (zinc oxide) at the time of application. Visible oxidation shall be removed by mechanical methods such as stiff bristle or wire brushing. Contact surfaces for bolted connections shall consist of bare, uncoated metallizing only and shall be masked off prior to the application of any shop applied coatings.

The clear urethane coat or the epoxy penetrating sealer shall be applied in accordance with the manufacturer's instructions and in such a manner to assure thorough wetting and sealing of the metallizing.

For systems 2 and 3, prior to application of any subsequent coat, the surface of the previous coat shall be dry in accordance with the manufacturer's instructions and free of any visible contamination. If the manufacturer's specified recoat times are exceeded, the effected coat(s) shall be completely roughened or removed and replaced, according to the manufacturer's instructions, at no cost to the Department. The same restrictions regarding film appearance and continuity for the seal coat apply to the intermediate coat and topcoat.

All coats shall be applied to achieve a smooth, uniform appearance that is free of dryspray, overspray, and orange peel. Shadow-through, pinholes, bubbles, skips, misses, lap marks between applications, runs, sags, or other visible discontinuities are unacceptable.

Masked off areas around field connections shall be coated in the field after the steel is fully erected according to the touch-up procedure for the completed system.

When the application of field coat(s) is required, the existing shop applied coats shall be prepared and field painting performed according to the applicable provisions of Article 506.10. If any coat has exceeded its recoat time, the surface shall be completely roughened or removed and replaced according to the manufacturer's instructions, prior to the application of the topcoat.

All coatings shall be applied by spray, supplemented with brushing or rolling, if needed. Special attention shall be given to obtaining complete coverage and proper coating thickness in crevices, on welds and edges, and in hard to reach areas.

Application of Paint System over Galvanizing: If galvanizing is used in lieu of metallizing and Paint System 1, no further painting is required. If galvanizing is used in lieu of metallizing and Paint System 2, apply a two-coat system consisting of a full waterborne acrylic intermediate coat and a full waterborne acrylic finish coat from System 2. If galvanizing is used in lieu of metallizing and Paint System 3, apply a full epoxy intermediate coat and a full urethane coat from System 3. To minimize handling and erection damage the acrylic coats of System 2 shall be applied in the field. Except as noted on the plans, the epoxy and urethane coats of System 3 can be applied in the shop or field.

Touch-Up of Completed Coating System: The Contractor shall repair all damaged and/or unacceptable areas of the completed coating system (all metallizing, galvanizing, and paint layers) prior to shipment as defined below. The same process shall be followed for the repair of shipping, handling, and erection damage.

Damage to the metallizing, galvanizing, and/or paint that does not expose the substrate shall be prepared by solvent cleaning in accordance with SSPC-SP 1 followed by power tool cleaning in accordance with SSPC-SP 3 to remove loose material. For the repair of damaged metallizing or galvanizing that exposes the substrate, the surface shall be spot blast cleaned in accordance with SSPC-SP 10. If blast cleaning cannot be performed, as authorized by the Engineer, the damage shall be spot power tool cleaned to SSPC-SP11.

The metallizing, galvanizing and/or paint surrounding each repair area shall be feathered for a distance of 1 to 2 inches (25 to 50 mm) to provide a smooth, tapered transition into the existing intact material. The surrounding intact paint shall be roughened to promote adhesion of the repair coats.

Damage to metallizing or galvanizing extends to the substrate shall be repaired. For metallizing it is critical that all remnants of sealer or paint have been removed from the porosity of the metallizing before applying new metallizing or an adhesion failure can occur. If it is no longer feasible to apply metallizing, spot-apply an organic zinc primer meeting the requirements of Section 1008. For galvanizing, spot apply organic zinc. After priming, for both the metallizing and galvanizing, apply the same intermediate and finish coats used on the surrounding steel. If the damage does not expose the substrate, only the effected paint coat(s) shall be applied.

Surface Preparation and Painting of Galvanized Fasteners: All ASTM A 325 or ASTM F 3125 high strength steel bolts, nuts and washers shall be hot dip galvanized according to AASHTO M232, except in areas where the metallized surfaces are to be top coated, in which case they shall be mechanically galvanized according to Article 1006.08(a) of the Standard Specifications.

The Contractor shall prepare all fasteners (i.e., galvanized nuts, bolts, etc.) by power tool cleaning in accordance with SSPC-SP 3. Following power tool cleaning and prior to painting, the surfaces shall be solvent cleaned according to SSPC-SP 1. Slight stains of torqueing compound dye may remain after cleaning provided the dye is not transferred to a cloth after vigorous rubbing. If any dye is transferred to a cloth after vigorous rubbing, additional cleaning is required.

Spot paint the fasteners with one coat of an aluminum epoxy mastic coating meeting the requirements of Article 1008.03 of the Standard Specifications.

Shipping and Handling: The Contractor shall take special care in handling the steel in the shop and when loading for shipment. Painted, metallized, or galvanized steel shall not be moved or handled until sufficient cure time has elapsed to prevent handling damage. During shipping, the steel shall be insulated from the moving apparatus (i.e., chains, cables, hooks, clamps, etc.) by softeners approved by the Engineer. Apparatus used to hoist the steel shall be padded. Steel shall be placed on wood dunnage and spaced in such a manner that no rubbing will occur during shipment that could damage the paint, metallizing or galvanizing.

Special Instructions: At the completion of the work, the Contractor shall stencil on the bridge, using a contrasting colored paint, the date of metallizing and painting. The letters shall be capitals, not less than 2 inches (50 mm) and not more than 3 inches (75 mm) in height. The information defined below shall be stenciled on the exterior face of the first girders at the bridge abutments (approximately 1 or 2 feet outward from the abutment end of the girders). The Engineer will identify the bridge member(s) to be stenciled.

When all coats are applied in the shop with the exception of touch-up, the shop Contractor shall do the stenciling. The stencil shall contain the following words on four lines: "METALLIZED BY" on the first line; name of the Contractor on the second line; and the month and year in which the coating was completed on the third line; and the applicable system Code on the fourth line.

When the finish coat is applied in the field, the Contractor shall do the stenciling as described above, but insert "PAINTED BY" and the Contractor's name after the fourth line.

Basis of Payment: This work shall not be paid for separately but shall be included in the unit price bid for furnishing and/or erecting structural steel according to Article 505.13.

Appendix 1 – Reference List

The Shop and Field Contractor(s) shall maintain the following regulations and references on site for the duration of the project:

Illinois Environmental Protection Act

American Society of Testing Material

- ASTM D 4285, Standard Test Method for Indicating Oil or Water in Compressed Air
- ASTM B833, Standard Specifications for Zinc Wire for Thermal Spraying (Metallizing)
- ASTM D4541, Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers

Society of Protective Coatings

- SSPC-AB 1, Mineral and Slag Abrasives
- SSPC-AB 2, Specification for Cleanliness of Recycled Ferrous Metallic Abrasives
- SSPC-AB 3, Newly Manufactured or Re-Manufactured Steel Abrasives
- SSPC-PA 2, Measurement of Dry Coating Thickness with Magnetic Gages
- SSPC-QP 1, Standard Procedure for Evaluating Painting Shop Contractors (Field Application to Complex Structures)
- SSPC-QP 2, Standard Procedure for Evaluating the Qualifications of Painting Shop Contractors to Remove Hazardous Paint
- SSPC-SP 1, Solvent Cleaning
- SSPC-SP 5/NACE No. 1, White Metal Blast Cleaning
- SSPC-SP 11, Power Tool Cleaning to Bare Metal
- SSPC-SP 12/NACE No. 5, Surface Preparation and Cleaning of Metals by Water Jetting Prior to Recoating
- SSPC-SP 16, Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals
- SSPC-PA 17, Procedure for Determining Conformance to Steel Profile/Surface Roughness/Peak Count Requirements.
- SSPC-VIS 1, Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning

- SSPC-VIS 5, Guide and Reference Photographs for Steel Prepared by Wet Abrasive Blast Cleaning
- SSPC-Guide 15, Field Methods for Retrieval and Analysis of Soluble Salts on Steel and Other Nonporous Surfaces
- SSPC-CS 23.00/AWS C2.23M/NACE No. 12, Specification for the Application of Thermal Spray Coatings (Metallizing) of Aluminum, Zinc, and Their Alloys and Composites for the Corrosion Protection of Steel

American National Standards Institute/American Welding Society

- ANSI/AWS C2.25/C2.25M, Specification for Solid and Composite Wires, and Ceramic Rods for Thermal Spraying
- AWS C2.6/C2.6M, Guide for Thermal-Spray Operator Qualification

Metallizing wire and coating manufacturer's application instructions, MSDS and product data sheets

DRILLED SHAFTS

Effective: October 5, 2015

Revised: October 27, 2023

Revise Section 516 of the Standard Specifications to read:

"SECTION 516. DRILLED SHAFTS

516.01 Description. This work shall consist of constructing drilled shaft foundations.

516.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Portland Cement Concrete (Note 1).....	1020
(b) Reinforcement Bars	1006.10
(c) Grout (Note 2).....	1024.01
(d) Permanent Steel Casing	1006.05(d)
(e) Slurry (Note 3)	

Note 1. When the soil contains sulfate contaminates, ASTM C 1580 testing will be performed to assess the severity of sulfate exposure to the concrete. If the sulfate contaminate is >0.10 to < 0.20 percent by mass, a Type II (MH) cement shall be used. If the sulfate contaminate is >0.20 to < 2.0 percent by mass, a Type V cement shall be used. If the sulfate contaminate is $\geq$ 2.0 percent by mass, refer to ACI 201.2R for guidance.

Note 2. The sand-cement grout mix shall be according to Section 1020 and shall be two to five parts sand and one part Type I or II cement. The maximum water cement ratio shall be sufficient to provide a flowable mixture with a typical slump of 10 in. (250 mm).

Note 3. Slurry shall be bentonite, emulsified polymer, or dry polymer, and shall be approved by the Engineer.

516.03 Equipment. Equipment shall be according to the following.

Item	Article/Section
(a) Concrete Equipment	1020.03
(b) Drilling Equipment (Note 1)	
(c) Hand Vibrator	1103.17(a)
(d) Underwater Concrete Placement Equipment	1103.18

Note 1. The drilling equipment shall have adequate capacity, including power, torque and down thrust, to create a shaft excavation of the maximum diameter specified to a depth of 20 percent beyond the depths shown on the plans.

516.04 Submittals. The following information shall be submitted on form BBS 133.

(a) Qualifications. At the time of the preconstruction conference, the Contractor shall provide the following documentation.

(1) References. A list containing at least three projects completed within the three years prior to this project's bid date which the Contractor performing this work has installed drilled shafts of similar diameter, length, and site conditions to those shown in the plans. The list of projects shall contain names and phone numbers of owner's representatives who can verify the Contractor's participation on those projects.

(2) Experience. Name and experience record of the drilled shaft supervisor, responsible for all facets of the shaft installation, and the drill operator(s) who will be assigned to this project. The supervisor and operator(s) shall each have a minimum of three years experience in the construction of drilled shafts.

(b) Installation Procedure. A detailed installation procedure shall be submitted to the Engineer for acceptance at least 28 days prior to drilled shaft construction and shall address each of the following items unless otherwise directed by the Engineer in writing.

(1) Equipment List. List of proposed equipment to be used including cranes, drill rigs, augers, belling tools, casing, vibratory hammers, core barrels, bailing buckets, final cleaning equipment, slurry equipment, tremies, or concrete pumps, etc.

(2) General Sequence. Details of the overall construction operation sequence, equipment access, and the sequence of individual shaft construction within each substructure bent or footing group. The submittal shall address the Contractor's proposed time delay and/or the minimum concrete strength necessary before initiating a shaft excavation adjacent to a recently installed drilled shaft.

(3) Shaft Excavation. A site specific step by step description of how the Contractor anticipates the shaft excavation to be advanced based on their evaluation of the subsurface data and conditions expected to be encountered. This sequence shall note the method of casing advancement, anticipated casing lengths, tip elevations and diameters, the excavation tools used and drilled diameters created. The Contractor shall indicate whether wet or dry drilling conditions are expected and if

groundwater will be sealed from the excavation.

- (4) Slurry. When the use of slurry is proposed, details on the types of additives to be used and their manufacturers shall be provided. In addition, details covering the measurement and control of the hardness of the mixing water, agitation, circulation, de-sanding, sampling, testing, and chemical properties of the slurry shall be submitted.
- (5) Shaft Cleaning. Method(s) and sequence proposed for the shaft cleaning operation.
- (6) Reinforcement Cage and Permanent Casing. Details of reinforcement placement including rolling spacers to be used and method to maintain proper elevation and location of the reinforcement cage within the shaft excavation during concrete placement. The method(s) of adjusting the reinforcement cage length and permanent casing if rock is encountered at an elevation other than as shown on the plans. As an option, the Contractor may perform soil borings and rock cores at the drilled shaft locations to determine the required reinforcement cage and permanent casing lengths.
- (7) Concrete Placement. Details of concrete placement including proposed operational procedures for free fall, tremie or pumping methods. The sequence and method of casing removal shall also be stated along with the top of pour elevation, and method of forming through water above streambed.
- (8) Mix Design. The proposed concrete mix design(s).
- (9) Disposal Plan. Containment and disposal plan for slurry and displaced water. Containment and disposal plan for contaminated concrete pushed out of the top of the shaft by uncontaminated concrete during concrete placement.
- (10) Access and Site Protection Plan. Details of access to the drilled shafts and safety measures proposed. This shall include a list of casing, scaffolding, work platforms, temporary walkways, railings, and other items needed to provide safe access to the drilled shafts. Provisions to protect open excavations during non-working hours shall be included.

The Engineer will evaluate the drilled shaft installation procedure and notify the Contractor of acceptance, need for additional information, or concerns with the installation's effect on the existing or proposed structure(s).

CONSTRUCTION REQUIREMENTS

516.05 General. Excavation for drilled shaft(s) shall not proceed until written authorization is received from the Engineer. The Contractor shall be responsible for verification of the dimensions and alignment of each shaft excavation as directed by the Engineer.

Unless otherwise approved in the Contractor's installation procedure, no shaft excavation, casing installation, or casing removal with a vibratory hammer shall be made within four shaft diameters center to center of a shaft with concrete that has a compressive strength less than 1500 psi (10,300 kPa). The site-specific soil strengths and installation methods selected will determine the actual required minimum spacing, if any, to address vibration and blow out concerns.

Lost tools shall not remain in the shaft excavation without the approval of the Engineer.

Blasting shall not be used as a method of shaft excavation.

516.06 Shaft Excavation Protection Methods. The construction of drilled shafts may involve the use of one or more of the following methods to support the excavation during the various phases of shaft excavation, cleaning, and concrete placement dependent on the site conditions encountered. Surface water shall not flow uncontrolled into the shaft excavation, however water may be placed into the shaft excavation in order to meet head pressure requirements according to Articles 516.06(c) and 516.13.

The following are general descriptions indicating the conditions when these methods may be used.

- (a) Dry Method. The dry construction method shall only be used at sites where the groundwater and soil conditions are suitable to permit the drilling and dewatering of the excavation without causing subsidence of adjacent ground, boiling of the base soils, squeezing, or caving of the shaft side walls. The dry method shall consist of drilling the shaft excavation, removing accumulated water, cleaning the shaft base, and placing the reinforcement cage and concrete in a predominately dry excavation.

Slurry Method. The slurry construction method may be used at sites where dewatering the excavation would cause collapse of the shaft sidewalls or when the volume and head of water flowing into the shaft is likely to contaminate the concrete during placement resulting in a shaft defect. This method uses slurry, or in rare cases water, to maintain stability of the shaft sidewall while advancing the shaft excavation. After the shaft excavation is completed, the slurry level in the shaft shall be kept at an elevation to maintain stability of the shaft sidewall, maintain stability of the shaft base, and prevent additional groundwater from entering the shaft. The shaft base shall be cleaned, the reinforcement cage shall be set, and the concrete shall be discharged at the bottom of the shaft excavation, displacing the slurry upwards.

- (b) Temporary Casing Method. Temporary casing shall be used when either the dry or slurry methods provide inadequate support to prevent sidewall caving or excessive deformation of the shaft excavation. Temporary casing may be used with slurry or be used to reduce the flow of water into the excavation to allow dewatering and concrete placement in a dry shaft excavation. Temporary casing shall not be allowed to remain permanently without the approval of the Engineer.

During removal of the temporary casing, the level of concrete in the casing shall be maintained at a level such that the head pressure inside the casing is a minimum of 1.25 times the head pressure outside the casing, but in no case is less than 5 ft (1.5 m) above the bottom of the casing. Casing removal shall be at a slow, uniform rate with the pull in line with the shaft axis. Excessive rotation of the casing shall be avoided to limit deformation of the reinforcement cage. In addition, the slump requirements during casing removal shall be according to Article 516.12.

When called for on the plans, the Contractor shall install a permanent casing as specified. Permanent casing may be used as a shaft excavation support method or may be installed after shaft excavation is completed using one of the above methods. After construction, if voids are present between the permanent casing and the drilled excavation, the voids shall be filled with grout by means of tremie(s) or concrete pump which shall be lowered to the bottom of the excavation. The contractor's means and methods for grout placement shall fill the annular void(s) between the permanent casing and the surrounding earth material to restore and provide lateral earth resistance to the shaft. Grout yield checks shall be performed by the contractor for submittal to the Engineer. Permanent casing shall not remain in place beyond the limits shown on the plans without the specific approval of the Engineer.

When the shaft extends above the streambed through a body of water and permanent casing is not shown, the portion above the streambed shall be formed with removable casings, column forms, or other forming systems as approved by the Engineer. The forming system shall not scar or spall the finished concrete or leave in place any forms or casing within the removable form limits as shown on the plans unless approved as part of the installation procedure. The forming system shall not be removed until the concrete has attained a minimum compressive strength of 2500 psi (17,200 kPa) and cured for a minimum of 72 hours. For shafts extending through water, the concrete shall be protected from water action after placement for a minimum of seven days.

516.07 Slurry. When slurry is used, the Contractor shall provide a technical representative of the slurry additive manufacturer at the site prior to introduction of the slurry into the first shaft where slurry will be used, and during drilling and completion of a minimum of one shaft to adjust the slurry mix to the specific site conditions. During construction, the level of the slurry shall be maintained a minimum of 5 feet (1.5 m) above the height required to prevent caving of the shaft excavation. In the event of a sudden or significant loss of slurry in the shaft excavation, the construction of that foundation shall be stopped and the shaft excavation backfilled or supported by temporary casing, until a method to stop slurry loss, or an alternate construction procedure, has been approved by the Engineer.

- (a) General Properties. The material used to make the slurry shall not be detrimental to the concrete or surrounding ground. Mineral slurries shall have both a mineral grain size that remains in suspension and sufficient viscosity and gel characteristics to transport excavated material to a suitable screening system. Polymer slurries shall have sufficient viscosity and gel characteristics to transport excavated material to suitable screening systems or settling tanks. The percentage and specific gravity of the material used to make the slurry shall be sufficient to maintain the stability of the excavation and to allow proper concrete placement.

If approved by the Engineer, the Contractor may use water and excavated soils as drilling slurry. In this case, the range of acceptable values for density, viscosity and pH, as shown in the following table for bentonite slurry shall be met.

When water is used as the slurry to construct rock sockets in limestone, dolomite, sandstone or other formations that are not erodible, the requirements for slurry testing shall not apply if the entire fluid column is replaced with fresh water after drilling. To do so, fresh water shall be introduced at the top of the shaft excavation and existing water used during drilling shall be pumped out of the shaft excavation from the bottom of the shaft excavation until the entire volume of fluid has been replaced.

- (b) Preparation. Prior to introduction into the shaft excavation, the manufactured slurry admixture shall be pre-mixed thoroughly with clean, fresh water and for adequate time in accordance with the slurry admixture manufacturer's recommendations. Slurry tanks of adequate capacity shall be used for slurry mixing, circulation, storage and treatment. No excavated slurry pits will be allowed in lieu of slurry tanks without approval from the Engineer. Adequate desanding equipment shall be provided to control slurry properties during the drilled shaft excavation in accordance with the values provided in Table 1.
- (c) Quality Control. Quality control tests shall be performed on the slurry to determine density, viscosity, sand content and pH of freshly mixed slurry, recycled slurry and slurry in the shaft excavation. Tests of slurry samples from within two feet of the bottom and at mid-height of the shaft excavation shall be conducted in each shaft excavation during the excavation process to measure the consistency of the slurry. A minimum of four sets of tests shall be conducted during the first eight hours of slurry use on the project. When a series of four test results do not change more than 1% from the initial test, the testing frequency may be decreased to one set every four hours of slurry use. Reports of all tests, signed by an authorized representative of the Contractor, shall be furnished to the Engineer upon completion of each drilled shaft. The physical properties of the slurry shall be as shown in Table 1.

The slurry shall be sampled and tested less than 1 hour before concrete placement. Any heavily contaminated slurry that has accumulated at the bottom of the shaft shall be removed. The contractor shall perform final shaft bottom cleaning after suspended solids have settled from the slurry. Concrete shall not be placed if the slurry does not have the required physical properties.

Table 1 – SLURRY PROPERTIES				
	Bentonite	Emulsified Polymer	Dry Polymer	Test Method
Density, lb/cu ft (kg/cu m) (at introduction)	65.2 ± 1.6 ¹ (1043.5 ± 25.6)	63 (1009.0) max.	63 (1009.0) max.	ASTM D 4380
Density, lb/cu ft (kg/cu m) (prior to concrete placement)	67.0 ± 3.5 ¹ (1073.0 ± 56.0)	63 (1009.0) max.	63 (1009.0) max.	ASTM D 4380
Viscosity ² , sec/qt (sec/L)	46 ± 14 (48 ± 14)	38 ± 5 (40 ± 5)	65 ± 15 (69 ± 16)	ASTM D 6910
pH	9.0 ± 1.0	9.5 ± 1.5	9.0 ± 2.0	ASTM D 4972
Sand Content, percent by volume (at introduction)	4 max.	1 max.	1 max.	ASTM D 4381
Sand Content, percent by volume (prior to concrete placement)	10 max.	1 max.	1 max.	ASTM D 4381
Contact Time ³ , hours	4 max.	72 max.	72 max	

Note 1. When the slurry consists of only water and excavated soils, the density shall not exceed 70 lb/cu ft (1121 kg/cu m).

Note 2. Higher viscosities may be required in loose or gravelly sand deposits.

Note 3. Contact time is the time without agitation and sidewall cleaning.

516.08 Obstructions. An obstruction is an unknown isolated object that causes the shaft excavation method to experience a significant decrease in the actual production rate and requires the Contractor to core, break up, push aside, or use other means to mitigate the obstruction. Subsurface conditions such as boulders, cobbles, or logs and buried infrastructure such as footings, piling, or abandoned utilities, when shown on the plans, shall not constitute an obstruction. When an obstruction is encountered, the Contractor shall notify the Engineer immediately and upon concurrence of the Engineer, the Contractor shall mitigate the obstruction with an approved method.

516.09 Top of Rock. The top of rock will be considered as the point where rock, defined as bedded deposits and conglomerate deposits exhibiting the physical characteristics and difficulty of rock removal as determined by the Engineer, is encountered which cannot be drilled with augers and/or underreaming tools configured to be effective in the soils indicated in the contract documents.

516.10 Design Modifications. If the top of rock elevation differs from that shown on the plans by more than 10 percent of the length of the drilled shaft above the rock, the Engineer shall be contacted to determine if any drilled shaft design changes may be required. In addition, if the type of soil or rock encountered is not similar to that shown in the subsurface exploration data, the Contractor may be required to extend the drilled shaft length(s) beyond those specified in the plans. In either case, the Engineer will determine if revisions are necessary and the extent of the modifications required.

516.11 Excavation Cleaning and Inspection. Materials removed or generated from the shaft excavations shall be disposed of according to Article 202.03.

After excavation, each shaft shall be cleaned. For a drilled shaft terminating in soil, the depth of sediment or debris shall be a maximum of 1 1/2 in. (38 mm). For a drilled shaft terminating in rock, the depth of sediment or debris shall be a maximum of 1/2 in. (13 mm).

A shaft excavation shall be overreamed when, in the opinion of the Engineer, the sidewall has softened, swelled, or has a buildup of slurry cake. Overreaming may also be required to correct a shaft excavation which has been drilled out of tolerance. Overreaming may be accomplished with a grooving tool, overreaming bucket, or other approved equipment. Overreaming thickness shall be a minimum of 1/2 in. (13 mm) and a maximum of 3 in. (75 mm).

516.12 Reinforcement. This work shall be according to Section 508 and the following.

The shaft excavation shall be cleaned and inspected prior to placing the reinforcement cage. The reinforcement cage shall be completely assembled prior to drilling and be ready for adjustment in length as required by the conditions encountered. The reinforcement cage shall be lifted using multiple point sling straps or other approved methods to avoid reinforcement cage distortion or stress. Cross frame stiffeners may be required for lifting or to keep the reinforcement cage in proper position during lifting and concrete placement.

The Contractor shall attach rolling spacers to keep the reinforcement cage centered within the shaft excavation during concrete placement and to ensure that at no point will the finished shaft have less than the minimum concrete cover(s) shown on the plans. The rolling spacers or other approved non-corrosive spacing devices shall be installed within 2 ft (0.6 m) of both the top and bottom of the drilled shaft and at intervals not exceeding 10 ft (3 m) throughout the length of the shaft to ensure proper reinforcement cage alignment and clearance for the entire shaft. The number of rolling spacers at each level shall be one for each 1.0 ft (300 mm) of shaft diameter, with a minimum of four rolling spacers at each level. For shafts with different shaft diameters throughout the length of the excavation, different sized rolling spacers shall be provided to ensure the reinforcement cage is properly positioned throughout the entire length of the shaft.

When a specific concrete cover between the base of the drilled shaft and the reinforcement cage is shown on the plans, the bottom of the reinforcement cage shall be supported so that the proper concrete cover is maintained.

If the conditions differ such that the length of the shaft is increased, additional longitudinal bars shall be either mechanically spliced or lap spliced to the lower end of the reinforcement cage and confined with either hoop ties or spirals. The Contractor shall have additional reinforcement available or fabricate the reinforcement cages with additional length as

necessary to make the required adjustments in a timely manner as dictated by the encountered conditions. The additional reinforcement may be non-epoxy coated.

516.13 Concrete Placement. Concrete work shall be performed according to the following.

Throughout concrete placement the head pressure inside the drilled shaft shall be at least 1.1 times the head pressure outside the drilled shaft.

Concrete placement shall begin within 1 hour of shaft cleaning and inspection. The pour shall be made in a continuous manner from the bottom to the top elevation of the shaft as shown on the contract plan or as approved in the Contractor's installation procedure. Concrete placement shall continue after the shaft excavation is full and until 18 in. (450 mm) of good quality, uncontaminated concrete is expelled at the top of shaft. Vibration of the concrete will not be allowed when the concrete is displacing slurry or water. In dry excavations, the concrete in the top 10 ft (3 m) of the shaft shall be vibrated.

When using temporary casing or placing concrete under water or slurry, a minimum of seven days prior to concrete placement, a 4 cu yd (3 cu m) trial batch of the concrete mixture shall be performed to evaluate slump retention. Temporary casing shall be withdrawn before the slump of the concrete drops below 6 in. (150 mm). For concrete placed using the slurry method of construction, the slump of all concrete placed shall be a minimum of 6 in. (150 mm) at the end of concrete placement.

Devices used to place concrete shall have no aluminum parts in contact with concrete.

When the top of the shaft is at the finished elevation and no further concrete placement above the finished elevation is specified, the top of the shaft shall be level and finished according to Article 503.15(a).

Concrete shall be placed by free fall, tremie, or concrete pump subject to the following conditions.

- (a) Free Fall Placement. Concrete shall only be placed by free fall when the rate of water infiltration into the shaft excavation is less than 12 in. (300 mm) per hour and the depth of water in the shaft excavation is less than 3 in. (75 mm) at the time of concrete placement.

Concrete placed by free fall shall fall directly to the base without contacting the reinforcement cage, cross frame stiffeners, or shaft sidewall. Drop chutes may be used to direct concrete to the base during free fall placement.

Drop chutes used to direct placement of free fall concrete shall consist of a smooth tube. Concrete may be placed through either a hopper at the top of the tube or side openings as the drop chute is retrieved during concrete placement. The drop chute shall be supported so that free fall does not exceed 60 ft (18.3 m) for conventional concrete or 30 ft (9.1 m) for self-consolidating concrete. If placement cannot be satisfactorily accomplished by free fall in the opinion of the Engineer, either a tremie or pump shall be used to accomplish the pour.

- (b) Tremie and Concrete Pump Placement. Concrete placement shall be according to

Article 503.08, except the discharge end of the steel pipe shall remain embedded in the concrete a minimum of 10 ft (3.0 m) throughout concrete placement when displacing slurry or water.

516.14 Construction Tolerances. The following construction tolerances shall apply to all drilled shafts.

- (a) Center of Shaft. The center of the drilled shaft shall be within 3 in. (75 mm) of the plan station and offset at the top of the shaft.
- (b) Center of Reinforcement Cage. The center of the reinforcement cage shall be within 1 1/2 in. (40 mm) of plan station and offset at the top of the shaft.
- (c) Vertical Plumbness of Shaft. The out of vertical plumbness of the shaft shall not exceed 1.5 percent.
- (d) Vertical Plumbness of Reinforcement Cage. The out of vertical plumbness of the shaft reinforcement cage shall not exceed 0.83 percent.
- (e) Top of Shaft. The top of the shaft shall be no more than 1 in. (25 mm) above and no more than 3 in. (75 mm) below the plan elevation.
- (f) Top of Reinforcement Cage. The top of the reinforcement cage shall be no more than 1 in. (25 mm) above and no more than 3 in. (75 mm) below the plan elevation.
- (g) Bottom of shaft. Excavation equipment and methods used to complete the shaft excavation shall have a nearly planar bottom. The cutting edges of excavation equipment used to create the bottom of shafts in rock shall be normal to the vertical axis of the shaft within a tolerance of 6.25 percent.

516.15 Method of Measurement. This work will be measured for payment in place and the volume computed in cubic yards (cubic meters). The volume will be computed using the plan diameter of the shaft multiplied by the measured length of the shaft. The length of shaft in soil will be computed as the difference in elevation between the top of the drilled shaft shown on the plans, or as installed as part of the Contractor's installation procedure, and the bottom of the shaft or the top of rock (when present) whichever is higher. The length of shaft in rock will be computed as the difference in elevation between the measured top of rock and the bottom of the shaft.

When permanent casing is specified, it will be measured for payment in place, in feet (meters). Permanent casing installed at the Contractor's option will not be measured for payment.

Reinforcement furnished and installed will be measured for payment according to Article 508.07.

516.16 Basis of Payment. This work will be paid for at the contract unit price per cubic yard (cubic meter) for DRILLED SHAFT IN SOIL, and/or DRILLED SHAFT IN ROCK.

Permanent casing will be paid for at the contract unit price per foot (meter) for PERMANENT CASING.

Reinforcement furnished and installed will be paid for according to Article 508.08.

Obstruction mitigation will be paid for according to Article 109.04.”

CROSSHOLE SONIC LOGGING TESTING OF DRILLED SHAFTS

Effective: April 20, 2016

Revised: March 24, 2023

Description. This work shall consist of furnishing and installing materials and equipment necessary to install access ducts in all drilled shafts of structures identified on the plans, and to perform Crosshole Sonic Logging (CSL) testing, analysis, and reports only on selected drilled shafts where specified and as directed by the Engineer. This work shall be according to Illinois Modified ASTM D6760. This work includes investigating anomalies identified in the CSL data and grouting of all access ducts after testing and analysis.

Materials. Materials shall be according to the following.

- (a) Nonshrink Grout (Note 1)1024.02
- (b)

Note 1. Grout shall attain a minimum strength equal to the required strength of the drilled shaft concrete at 14 days.

Qualifications. A consulting firm experienced in CSL testing shall conduct this work. The CSL consulting firm shall be a company independent from the Contractor with a minimum of 3 years of experience in performing CSL testing of drilled shafts. The individual evaluating the CSL data and preparing the report shall be an Illinois Licensed Professional Engineer and have experience on a minimum of 5 CSL testing projects.

The name, contact information, and qualifications of the CSL consulting firm, including the names and experience of the individual employees performing and analyzing the test results and preparing the report, shall be submitted to the Engineer at least 30 days prior to drilled shaft construction.

Construction. Access ducts shall be placed in all drilled shafts identified on the plans according to Illinois Modified ASTM D6760. The completed rebar cage with the required access ducts shall be lifted to prevent cage bending and damage to the access ducts and/or joints. Joints of the access ducts shall be watertight.

The Engineer will determine which drilled shafts shall have CSL testing performed after the concrete has been placed, and may direct additional tests, if necessary, due to problems encountered or observed during drilled shaft construction.

After permission is given by the Engineer, the access ducts shall be grouted. The grout shall be placed with a pump, starting at the bottom of each access duct.

Superimposed loads, either dead or live, shall not be applied to a drilled shaft until CSL testing is completed, CSL reports have been submitted, any necessary testing and repairs have been completed, access ducts have been grouted, and permission has been granted by the Engineer.

Reports. Reports shall be according to Illinois Modified ASTM D6760. Reports shall identify, label, and discuss anomalies, potential flaws, or defects. If none are identified, that shall be stated in the report. An anomalous zone shall be defined as an area where the First Arrival Time (FAT) increase exceeds 20 percent of the local average FAT value of the shaft concrete at the time of testing. Reports shall discuss recommendations for additional investigation or testing of anomalous zones identified. Reports shall give an overall assessment of the constructed shaft quality based on the data and information analyzed. Reports shall be submitted to the Bureau of Bridges and Structures, or the local agency owner, for review and acceptance.

Anomalies. If anomalies are identified, they shall be investigated by coring or other methods approved by the Engineer. If coring is to be performed, the Engineer will determine the location of the core(s).

Remediation of Drilled Shaft Defects. When the Engineer determines a defect is present, the Engineer will direct the Contractor to repair the defect. The Contractor shall submit a plan to repair the defect to the Engineer for approval. No compensation will be made for remedial work, or losses, or damage, due to remedial work of drilled shafts found defective or not in accordance with the drilled shaft specifications or plans. Modifications to the structure shall be designed, detailed, and sealed by an Illinois Licensed Structural Engineer.

Method of Measurement. Installation and grouting of access ducts will be measured for payment by the linear foot of drilled shafts with access ducts. Each individual access duct will not be measured for payment.

CSL testing, analysis, and reporting will be measured for payment by each drilled shaft foundation tested.

Investigation of anomalies will not be measured for payment.

Basis of Payment. Installation and grouting of access ducts will be paid for at the contract unit price per foot for CROSSHOLE SONIC LOGGING ACCESS DUCTS. CSL testing, analysis, and reporting will be paid for at the contract unit price per each for CROSSHOLE SONIC LOGGING TESTING.

ILLINOIS MODIFIED ASTM D6760
 Effective Date: April 20, 2016
 Revised Date: August 4, 2023

Standard Test Method for
Integrity Testing of Concrete Deep Foundations by Ultrasonic Crosshole Testing
 Reference ASTM D6760-16

ASTM SECTION	Illinois Modification								
1.7	Revise this section as follows: Units—The values stated in either English units or SI units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the standard. Reporting of test results in units other than English shall not be regarded as nonconformance with this standard.								
3.1.1	Revise this section as follows: <i>access ducts, n</i> – preformed steel tubes or drilled boreholes, placed in the concrete to allow probe entry in pairs to measure pulse transmission in the concrete between the probes.								
5.2.1	Revise the first sentence of this section as follows: For crosshole tests, the access ducts shall be made of steel to prevent debonding of the access duct from the concrete resulting in an anomaly.								
5.2.2	Delete this section.								
6.1	Revise the second sentence of this section as follows: The access ducts shall be mild steel with internal diameter of 38 mm (1.5 in.). Delete the third, fourth, and fifth sentences of this section.								
7.1.1	Revise this section as follows: The access ducts shall be installed during construction of the drilled shaft. For drilled shafts foundations, access ducts shall be provided according to the following table. <table border="1"> <thead> <tr> <th>Reinforcing Cage Diameter (feet)</th><th>Number of Access Ducts</th></tr> </thead> <tbody> <tr> <td>≤ 5.0</td><td>4</td></tr> <tr> <td>5.1 to 7.0</td><td>6</td></tr> <tr> <td>> 7.0</td><td>8</td></tr> </tbody> </table> Access ducts shall be spread equally around the perimeter and spaced at an equal distance from the axis. Delete Fig. 4. In Section 7.1.1.	Reinforcing Cage Diameter (feet)	Number of Access Ducts	≤ 5.0	4	5.1 to 7.0	6	> 7.0	8
Reinforcing Cage Diameter (feet)	Number of Access Ducts								
≤ 5.0	4								
5.1 to 7.0	6								
> 7.0	8								

ILLINOIS MODIFIED ASTM D6760
 Effective Date: April 20, 2016
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Integrity Testing of Concrete Deep Foundations by Ultrasonic Crosshole Testing
 Reference ASTM D6760-16

7.1.2	Revise the second sentence of this section as follows: The exterior duct surface shall be free from contamination (for example, oil, dirt, loose rust, mill scale, etc.) to ensure a good bond between the duct surface and the surrounding concrete.
7.1.3	Delete the third sentence of this section.
7.2	Revise the first sentence of this section as follows: The access ducts shall be installed such that the bottom of the access ducts are at the bottom of the concrete deep foundation element so that the bottom of the drilled shaft can be tested. Revise the sixth sentence of this section as follows: Access ducts shall be filled with water prior to concrete placement to assure good bonding of the concrete to the duct after the concrete cools. The access ducts shall be kept full of water until the ducts are grouted.
7.3	Revise the first sentence of this section as follows: In cases where drilled shafts to be tested have access ducts that do not permit passage of the probes, do not retain water, are not plumb, are debonded from the concrete, or cannot be used for testing for other reasons, drilled boreholes shall be used to provide probe access.
7.4.2	Revise the second sentence of this section as follows: The tests shall be performed no later than 21 days after concrete casting.
7.6	Delete this section.
7.8.1	Revise the first sentence of this section as follows: If the ultrasonic profile indicates an anomaly, then the suspect anomaly zone shall be further investigated by special test procedures such as fan shaped tests, tests with the probes raised at a fixed offset distance, or other tomographical techniques.
7.8.2	Delete Note 4 of this section.
8.1.1 (New Section)	Add as follows: Test data and results shall be reported in US Customary units.

BAR SPLICERS, HEADED REINFORCEMENT

Effective: September 2, 2022

Revised: October 27, 2023

Add the following to Article 508.08(b):

When bar splicers are epoxy-coated, all damaged or uncoated areas near the threaded ends shall be coated with a two-part epoxy according to ASTM D 3963 (D 3963M). All threaded ends of Stage II construction threaded splicer bars shall be coated according to ASTM D 3963 or dipped in an epoxy-mastic primer prior to joining the Stage II construction threaded splicer bar to the threaded coupler.

Add the following Article 508.02 (d)

Bar Terminators1006.10(a)(1)h

Add the following paragraph after Article 508.08 (c):

Bar terminators are threaded, headed attachments to reinforcement to form headed reinforcement. When specified on the plans, a bar terminator shall be attached to the designated reinforcement for development.

Add the following 4th paragraph to Article 508.11:

Bar Terminators will be paid for at the contract unit price per each for BAR TERMINATORS.

Add the following to Article 1006.10(a)(1)g:

For bar splicers with welded connections between the threaded coupler and threaded rod, the Stage I construction threaded splicer bar shall be welded to the threaded coupler using an all-around fillet weld.

Add the following Article 1006.10(a)(1)h:

Bar Terminators. Designated bars shall use a bar terminator to form headed reinforcement. Headed reinforcement shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706, except the connection strength of the bar terminator to the reinforcement bar shall meet, in tension, at least 125 percent of the specified yield strength of the reinforcement bar. The bar terminator shall be on the Department's qualified product list.

When the reinforcement bar to receive the bar terminator is epoxy coated, the bar terminator shall also be epoxy coated according to ASTM A 775 (A 775M)

AGGREGATE SUBGRADE IMPROVEMENT (BDE)

Effective: April 1, 2012

Revised: April 1, 2022

Add the following Section to the Standard Specifications:

“SECTION 303. AGGREGATE SUBGRADE IMPROVEMENT

303.01 Description. This work shall consist of constructing an aggregate subgrade improvement (ASI).

303.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate	1004.07
(b) Reclaimed Asphalt Pavement (RAP)	1031.09

303.03 Equipment. The vibratory roller shall be according to Article 1101.01, or as approved by the Engineer. Vibratory machines, such as tampers, shall be used in areas where rollers do not fit.

303.04 Soil Preparation. The minimum immediate bearing value (IBV) of the soil below the improved subgrade shall be according to the Department’s “Subgrade Stability Manual” for the aggregate thickness specified.

303.05 Placing and Compacting. The maximum nominal lift thickness of aggregate gradations CA 2, CA 6, and CA 10 when compacted shall be 9 in. (225 mm). The maximum nominal lift thickness of aggregate gradations CS 1, CS 2, and RR 1 when compacted shall be 24 in. (600 mm).

The top surface of the aggregate subgrade improvement shall consist of a layer of capping aggregate gradations CA 6 or CA 10 that is 3 in. (75 mm) thick after compaction. Capping aggregate will not be required when aggregate subgrade improvement is used as a cubic yard pay item for undercut applications.

Each lift of aggregate shall be compacted to the satisfaction of the Engineer. If the moisture content of the material is such that compaction cannot be obtained, sufficient water shall be added so that satisfactory compaction can be obtained.

303.06 Finishing and Maintenance. The aggregate subgrade improvement shall be finished to the lines, grades, and cross sections shown on the plans, or as directed by the Engineer. The aggregate subgrade improvement shall be maintained in a smooth and compacted condition.

303.07 Method of Measurement. This work will be measured for payment according to Article 311.08.

303.08 Basis of Payment. This work will be paid for at the contract unit price per cubic yard (cubic meter) or ton (metric ton) for AGGREGATE SUBGRADE IMPROVEMENT or at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE IMPROVEMENT, of the thickness specified.”

Add the following to Section 1004 of the Standard Specifications:

“1004.07 Coarse Aggregate for Aggregate Subgrade Improvement (ASI). The aggregate shall be according to Article 1004.01 and the following.

- (a) Description. The coarse aggregate shall be crushed gravel, crushed stone, or crushed concrete. In applications where greater than 24 in. (600 mm) of ASI material is required, gravel may be used below the top 12 in (300 mm) of ASI.
- (b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials.
- (c) Gradation.
 - (1) The coarse aggregate gradation for total ASI thickness less than or equal to 12 in. (300 mm) shall be CA 2, CA 6, CA 10, or CS 1.

The coarse aggregate gradation for total ASI thickness greater than 12 in. (300 mm) shall be CS 1 or CS 2 as shown below or RR 1 according to Article 1005.01(c).

COARSE AGGREGATE SUBGRADE GRADATIONS					
Grad No.	Sieve Size and Percent Passing				
	8"	6"	4"	2"	#4
CS 1	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 2		100	80 ± 10	25 ± 15	

COARSE AGGREGATE SUBGRADE GRADATIONS (Metric)					
Grad No.	Sieve Size and Percent Passing				
	200 mm	150 mm	100 mm	50 mm	4.75 mm
CS 1	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 2		100	80 ± 10	25 ± 15	

- (2) Capping aggregate shall be gradation CA 6 or CA 10.”

Add the following to Article 1031.09 of the Standard Specifications:

- “(b) RAP in Aggregate Subgrade Improvement (ASI). RAP in ASI shall be according to Articles 1031.01(a), 1031.02(a), 1031.06(a)(1), and 1031.06(a)(2), and the following.
 - (1) The testing requirements of Article 1031.03 shall not apply.
 - (2) Crushed RAP used for the lower lift may be mechanically blended with aggregate gradations CS 1, CS 2, and RR 1 but it shall be no greater than 40 percent of the total product volume. RAP agglomerations shall be no greater than 4 in. (100 mm).

- (3) For capping aggregate, well graded RAP having 100 percent passing the 1 1/2 in. (38 mm) sieve may be used when aggregate gradations CS 1, CS 2, CA 2, or RR 1 are used in the lower lift. FRAP will not be permitted as capping material.

Blending shall be through calibrated interlocked feeders or a calibrated blending plant such that the prescribed blending percentage is maintained throughout the blending process. The calibration shall have an accuracy of ± 2.0 percent of the actual quantity of material delivered.”

CEMENT, FINELY DIVIDED MINERALS, ADMIXTURES, CONCRETE, AND MORTAR (BDE)

Effective: January 1, 2025

Revised: January 1, 2026

Revise the first paragraph of Article 285.05 of the Standard Specifications to read:

“285.05 Fabric Formed Concrete Revetment Mat. The grout shall consist of a mixture of cement, fine aggregate, and water so proportioned and mixed as to provide a pumpable slurry. Fly ash or ground granulated blast furnace (GGBF) slag, and concrete admixtures may be used at the option of the Contractor. The grout shall have an air content of not less than 6.0 percent nor more than 9.0 percent of the volume of the grout. The mix shall obtain a compressive strength of 2500 psi (17,000 kPa) at 28 days according to Article 1020.09.”

Revise Article 302.02 of the Standard Specifications to read:

“302.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Cement	1001
(b) Water	1002
(c) Hydrated Lime	1012.01
(d) By-Product, Hydrated Lime	1012.02
(e) By-Product, Non-Hydrated Lime	1012.03
(f) Lime Slurry	1012.04
(g) Fly Ash	1010
(h) Soil for Soil Modification (Note 1)	1009.01
(i) Bituminous Materials (Note 2)	1032

Note 1. This soil requirement only applies when modifying with lime (slurry or dry).

Note 2. The bituminous materials used for curing shall be emulsified asphalt RS-2, CRS-2, HFE 90, or HFE 150; rapid curing liquid asphalt RC-70; or medium curing liquid asphalt MC-70 or MC-250.”

Revise Article 312.07(c) of the Standard Specifications to read:

“(c) Cement 1001”

Add Article 312.07(i) of the Standard Specifications to read:

“(i) Ground Granulated Blast Furnace (GGBF) Slag 1010”

Revise the first paragraph of Article 312.09 of the Standard Specifications to read:

“312.09 Proportioning and Mix Design. At least 60 days prior to start of placing CAM II, the Contractor shall submit samples of materials to be used in the work for proportioning and testing. The mixture shall contain a minimum of 200 lb (120 kg) of cement per cubic yard (cubic meter). Cement may be replaced with fly ash or ground granulated blast furnace (GGBF) slag according to Article 1020.05(c)(1) or 1020.05(c)(2), respectively, however the minimum cement content in the mixture shall be 170 lbs/cu yd (101 kg/cu m). Blends of coarse and fine aggregates will be permitted, provided the volume of fine aggregate does not exceed the volume of coarse aggregate. The Engineer will determine the proportions of materials for the mixture according to the “Portland Cement Concrete Level III Technician Course” manual. However, the Contractor may substitute their own mix design. Article 1020.05(a) shall apply, and a Level III PCC Technician shall develop the mix design.”

Revise Article 352.02 of the Standard Specifications to read:

“352.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Cement (Note 1)	1001
(b) Soil for Soil-Cement Base Course	1009.03
(c) Water	1002
(d) Bituminous Materials (Note 2)	1032

Note 1. Bulk cement may be used for the traveling mixing plant method if the equipment for handling, weighing, and spreading the cement is approved by the Engineer.

Note 2. The bituminous materials used for curing shall be emulsified asphalt RS-2, CRS-2, HFE 90, or HFE 150; rapid curing liquid asphalt RC-70; or medium curing liquid asphalt MC-70 or MC-250.”

Revise Article 404.02 of the Standard Specifications to read:

“404.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Cement	1001
(b) Water	1002
(c) Fine Aggregate	1003.08
(d) Bituminous Material (Tack Coat)	1032.06
(e) Emulsified Asphalts (Note 1) (Note 2)	1032.06
(f) Fiber Modified Joint Sealer	1050.05
(g) Additives (Note 3)	

Note 1. When used for slurry seal, the emulsified asphalt shall be CQS-1h according to Article 1032.06(b).

Note 2. When used for micro-surfacing, the emulsified asphalt shall be CQS-1hP according to Article 1032.06(e).

Note 3. Additives may be added to the emulsion mix or any of the component materials to provide the control of the quick-traffic properties. They shall be included as part of the mix design and be compatible with the other components of the mix.

Revise the last sentence of the fourth paragraph of Article 404.08 of the Standard Specifications to read:

“When approved by the Engineer, the sealant may be dusted with fine sand, cement, or mineral filler to prevent tracking.”

Revise Note 2 of Article 516.02 of the Standard Specifications to read:

“Note 2. The sand-cement grout mix shall be according to Section 1020 and shall be a 1:1 blend of sand and cement comprised of a Type I, IL, or II cement at 185 lb/cu yd (110 kg/cu m). The maximum water cement ratio shall be sufficient to provide a flowable mixture with a typical slump of 10 in. (250 mm).”

Revise Note 2 of Article 543.02 of the Standard Specifications to read:

“Note 2. The grout mixture shall be 6.50 hundredweight/cu yd (385 kg/cu m) of cement plus fine aggregate and water. Fly ash or ground granulated blast furnace (GGBF) slag may replace a maximum of 5.25 hundredweight/cu yd (310 kg/cu m) of the cement. The water/cement ratio, according to Article 1020.06, shall not exceed 0.60. An air-entraining admixture shall be used to produce an air content, according to Article 1020.08, of not less than 6.0 percent nor more than 9.0 percent of the volume of the grout. The Contractor shall have the option to use a water-reducing or high range water-reducing admixture.”

Revise Article 583.01 of the Standard Specifications to read:

“**583.01 Description.** This work shall consist of placing cement mortar along precast, prestressed concrete bridge deck beams as required for fairing out any unevenness between adjacent deck beams prior to placing of waterproofing membrane and surfacing.”

Revise Article 583.02(a) of the Standard Specifications to read:

“(a) Cement1001”

Revise the first paragraph of Article 583.03 of the Standard Specifications to read:

“**583.03 General.** This work shall only be performed when the air temperature is 45 °F (7 °C) and rising. The mixture for cement mortar shall consist of three parts sand to one part cement by volume. The amount of water shall be no more than that necessary to produce a workable, plastic mortar.”

Revise Article 606.02(h) of the Standard Specifications to read:

“(h) Fibers (Note 1)1014”

Revise Note 1 in Article 606.02(h) of the Standard Specifications to read:

“Note 1. Fibers, when required, shall only be used in the concrete mixture for slipform applications.”

Revise the third paragraph in Article 606.10 of the Standard Specifications to read:

“Welded wire fabric shall be 6 x 6 in. (150 x 150 mm) mesh, #4 gauge (5.74 mm), 58 lb (26 kg) per 100 sq ft (9 sq m).”

Revise Article 1001.01(d) of the Standard Specifications to read:

“(d) Rapid Hardening Cement. Rapid hardening cement shall be according to the Bureau of Materials Policy Memorandum “Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants”, and ASTM C 1600, Type URH, Type VRH, or Type RH-CAC. It shall be used according to Article 1020.04 or when approved by the Engineer. The Contractor shall submit a report from the manufacturer or an independent lab that contains results for testing according to ASTM C 1600 which shows the cement meets the requirements of either Type URH, Type VRH, or Type RH-CAC. Test data shall be less than 1 year old from the date of submittal.

Revise Article 1001.01(e) of the Standard Specifications to read:

“(e) Other Cements. Other cements shall be according to the Bureau of Materials Policy Memorandum “Portland or Blended Cement Acceptance Procedure for Qualified and Non-Qualified Plants”, and ASTM C 1157 or ASTM C 1600, as applicable. Other cements shall be used according to Article 1020.04 or when approved by the Engineer. For cements according to ASTM C 1157, the Contractor shall submit a report from the manufacturer or an independent lab that contains results of tests which shows the cement meets the requirements Type GU, HE, MS, MH, or LH. For cements according to ASTM C 1600, the Contractor shall submit a report from the manufacturer or an independent lab that contains results of tests which shows the cement meets the requirements Type MRH or GRH. Test data shall be less than 1 year old from the date of submittal.”

Revise Article 1002.02 of the Standard Specifications to read:

“**1002.02 Quality.** Water used with cement in concrete or mortar and water used for curing concrete shall be clean, clear, and free from sugar. In addition, water shall be tested and evaluated for acceptance according to one of the following options.

OPTION 1.

(a) Acceptable limits for acidity and alkalinity when tested according to ITP T 26.

- (1) Acidity -- 0.1 Normal NaOH 2 ml max.*
- (2) Alkalinity -- 0.1 Normal HCl 10 ml max.*

*To neutralize 200 ml sample.

(b) Acceptable limits for solids when tested according to the following.

- | | |
|--|------------|
| (1) Organic (ITP T 26)..... | 0.02% max. |
| (2) Inorganic (ITP T 26) | 0.30% max. |
| (3) Sulfate (SO ₄) (ASTM D 516-82) | 0.05% max. |
| (4) Chloride (ASTM D 512)..... | 0.06% max. |

(c) The following tests shall be performed on the water sample and on deionized water. The same cement and sand shall be used for both tests.

- (1) Unsoundness (ASTM C 151).
- (2) Initial and Final Set Time (ASTM C 266).
- (3) Strength (ASTM C 109).

The test results for the water sample shall not deviate from the test results for the deionized water, except as allowed by the precision in the test method.

OPTION 2. Water shall meet the requirements ASTM C 1602 Tables 1 and 2 as outlined in Sections 5.1, 5.2, and 5.4.”

Revise Note 2/ in Article 1003.01(b) of the Standard Specifications to read:

“2/ Applies only to sand. Sand exceeding the colorimetric test standard of 11 (Illinois Modified AASHTO T 21) will be checked for mortar making properties according to Illinois Modified ASTM C 87 and shall develop a compressive strength at the age of 14 days when using Type I, IL, or II cement of not less than 95 percent of the comparable standard.

Revise the second sentence of Article 1003.02(e)(1) of the Standard Specifications to read:

“The test will be performed with Type I, IL, or II portland cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.90 percent or greater.”

Revise the first sentence of the second paragraph of Article 1003.02(e)(3) of the Standard Specifications to read:

“The ASTM C 1293 test shall be performed with Type I, IL, or II portland cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.80 percent or greater.”

Revise the second sentence of Article 1004.02(g)(1) of the Standard Specifications to read:

“The test will be performed with Type I, IL, or II portland cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.90 percent or greater.”

Add the following Section to the Standard Specifications.

“SECTION 1014. FIBERS FOR CONCRETE

1014.01 General. Fibers used in concrete shall be Type II or Type III (polyolefin or carbon) according to ASTM C 1116. The testing required for Type II fibers or Type III polyolefin fibers shall be performed by an independent lab a minimum of once every five years, and the test results provided to the Department. Manufacturers of Type III carbon fibers shall provide materials certification documentation not more than 6 years old a minimum of once every 5 years to the Department. The Department will maintain a qualified product list. The method of inclusion of fibers into concrete mixtures shall be according to the manufacturer's specifications.

At the discretion of the Engineer, the concrete mixture shall be evaluated in a field demonstration for fiber clumping, ease of placement, and ease of finishing. The field demonstration shall consist of a minimum 2 cu yd (1.5 cu m) trial batch placed in a 12 ft x 12 ft (3.6 m x 3.6 m) slab.

1014.02 Concrete Gutter, Curb, Median and Paved Ditch. Fibers shall be Type III. Fibers shall have a minimum length of 1/2 in. (13 mm) and a maximum length of 0.75 in. (19 mm). The maximum dosage rate in the concrete mixture shall not exceed 1.5 lb/cu yd (0.9 kg/cu m). The minimum dosage rate shall be per the manufacturer's recommendation.

1014.03 Concrete Inlay or Overlay. Fibers shall be Type III. Fibers shall have a minimum length of 1.0 in. (25 mm), a maximum length of 2 1/2 in. (63 mm), and a maximum aspect ratio (length divided by the equivalent diameter of the fiber) of 150. The maximum dosage rate shall not exceed 5.0 lb/cu yd (3.0 kg/cu m). The minimum dosage rate shall be per the manufacturer's recommendation.

1014.04 Bridge Deck Fly Ash, Ground Granulated Blast Furnace (GGBF) Slag, High Reactivity Metakaolin, or Microsilica (Silica Fume) Concrete Overlay. Fibers shall be Type III. The dosage rate shall be a minimum of 3.0 lb/cu yd (1.8 kg/cu m), unless a field demonstration according to Article 1014.01 indicates that a lower dosage rate is necessary. Based on the results of the field demonstration, the Department has the option to reduce the dosage rate of fibers, but the dosage will not be reduced to less than 2.0 lb / cu yd (1.2 kg/cu m).

1014.05 Bridge Deck Latex Concrete Overlay. Fibers shall be Type II or III. Fibers shall have a minimum length of 0.75 in. (19 mm), a maximum length of 1.75 in. (45 mm), and an aspect ratio (length divided by the equivalent diameter of the fiber) of between 70 and 100. The dosage rate shall be a minimum of 3.0 lb/cu yd (1.8 kg/cu m), unless a field demonstration according to Article 1014.01 indicates that a lower dosage rate is necessary. Based on the results of the field demonstration, the Department has the option to reduce the dosage rate of fibers, but the dosage will not be reduced to less than 2.0 lb/cu yd (1.2 kg/cu m).”

Add the following Section to the Standard Specifications:

“SECTION 1015. HIGH PERFORMANCE SHOTCRETE

1015.01 Packaged Shotcrete With Aggregate. The packaged shotcrete with aggregate shall be a pre-blended dry combination of materials for the wet-mix shotcrete method according to ASTM C 1480, Type FA or CA, Grade FR, Class I. The fibers shall be Type III according to Article 1014.01. The cement and finely divided minerals in the mixture shall be a minimum 6.65 cwt/cu yd (395 kg/cu m), and the portland cement shall not be below 4.70 cwt/cu yd (279 kg/cu m). Microsilica is required in the mixture and shall be a minimum of 5 percent by weight (mass) of cementitious material, and a maximum of 10 percent. Strength requirements shall be according to ASTM C 1480 except that the strength at 28 days shall be at least 4000 psi (27,500 kPa). Strength testing shall be according to ASTM C 1140. The air content as shot shall be 4.0 – 8.0 percent when tested according to AASHTO T 152, and the coarse aggregate shall be a maximum size of 1/2 in. (12.5 mm).

The packaged shotcrete shall have a water soluble chloride ion content of less than 0.15% by weight of cementitious material when tested according to ASTM C 1218 or AASHTO T 260.

The testing according to ASTM C 1480, ASTM C 1140, AASHTO 152, and ASTM C 1218 or AASHTO T 260 shall be performed by an independent lab a minimum of once every 5 years, and the test results shall be provided to the Department. The Department will maintain a qualified product list. Batching and mixing shall be per the manufacturer’s recommendations.

1015.02 Packaged Shotcrete Without Aggregate. The packaged shotcrete that does not include pre-blended aggregate shall be according to Article 1015.01, except the added aggregate shall be according to Articles 1003.02 and 1004.02. The aggregate gradation shall be according to the manufacturer. The Department will maintain a qualified product list. Batching and mixing shall be per the manufacturer’s recommendations.”

Revise Section 1017 of the Standard Specifications to read:

“SECTION 1017. PACKAGED, DRY, COMBINED MATERIALS FOR MORTAR AND CONCRETE

1017.01 Mortar. The mortar shall be high-strength according to ASTM C 387 and shall have a minimum 80.0 percent relative dynamic modulus of elasticity when tested according to AASHTO T 161. For prestressed concrete applications, the mortar shall have a water-soluble chloride ion content of less than 0.06 percent by weight of cementitious material when tested according to ASTM C 1218 or AASHTO T 260; and for non-prestressed concrete applications, the water soluble chloride content shall be less than 0.15 percent by weight of cementitious material. The testing according to ASTM C 387, AASHTO T 161, and either ASTM C 1218 or AASHTO T 260 shall be performed by an independent lab a minimum of once every five years, and the test results shall be provided to the Department. The Department will maintain a qualified product list. Mixing of the high-strength mortar shall be according to the manufacturer’s specifications.

1017.02 Concrete. The materials, testing, and preparation of aggregate for the “high slump” packaged concrete mixture shall be according to ASTM C 387. The mixture shall be air entrained, the slump shall be 5-10 in. (125-250 mm), and the coarse aggregate shall be a maximum size of 1/2 in. (12.5 mm). Strength requirements shall be according to ASTM C 387 except that the strength at 28 days shall be at least 4000 psi (27,500 kPa). The “high slump” packaged concrete mixture shall have a water soluble chloride ion content of less than 0.15% by weight of cementitious material when tested according to ASTM C 1218 or AASHTO T 260. The testing according to ASTM C 387, and either ASTM C 1218 or AASHTO T 260 shall be performed by an independent lab a minimum of once every 5 years, and the test results shall be provided to the Department. The Department will maintain a qualified product list. Mixing shall be per the manufacturer’s recommendations.

1017.02 Self-Consolidating Concrete. The materials, testing, and preparation of aggregate for the “self-consolidating concrete” packaged concrete mixture shall be according to ASTM C 387. The mixture shall be air entrained, it should be uniformly graded, and the coarse aggregate shall be a maximum size of 1/2 in. (12.5 mm). Strength requirements shall be according to ASTM C 387 except that the strength at 28 days shall be at least 4000 psi (27,500 Pa). Slump flow range shall be 22 in. (550 mm) minimum to 28 in. (700 mm) maximum when tested according to AASHTO T 347. The visual stability index shall be a maximum of 1 when tested according to AASHTO T 351. At the option of the manufacturer, either the J-Ring value shall be a maximum of 2 in. (50 mm) when tested according to AASHTO T 347 or the L-Box blocking ratio shall be a minimum of 80 percent when tested according AASHTO T 419. The hardened visual stability index shall be a maximum of 1 when tested according to AASHTO R 81.

The “self -consolidating concrete” packaged concrete mixture shall have a water soluble chloride ion content of less than 0.15 percent by weight of cementitious material when tested according to ASTM C 1218 or AASHTO T 260.

The testing according to ASTM C 387, AASHTO T 347, AASHTO T 351, AASHTO T 419, AASHTO R 81, ASTM C 1218 and AASHTO T 260 shall be performed by an independent lab a minimum of once every 5 years, and the test results shall be provided to the Department. The Department will maintain a qualified product list. Mixing shall be per the manufacturer’s recommendations.”

Revise Article 1018.01 of the Standard Specifications to read:

“1018.01 Requirements. The rapid hardening mortar or concrete shall be according to ASTM C 928 and shall have successfully completed and remain current with the AASHTO Product Eval and Audit Rapid Hardening Concrete Patching Materials (RHCP) testing program. R1, R2, or R3 concrete shall be air entrained, the slump shall be 5-10 in. (125-250 mm), and the coarse aggregate shall be a maximum size of 1/2 in. (12.5 mm). For prestressed concrete applications, the mortar or concrete shall have a water-soluble chloride ion content of less than 0.06 percent by weight of cementitious material when tested according to ASTM C 1218 or AASHTO T 260; and for non-prestressed concrete applications, the water soluble chloride content shall be less than 0.15 percent by weight of cementitious material. The Department will maintain a qualified product list. Mixing of the mortar or concrete shall be according to the manufacturer’s specifications..”

Revise Article 1019.02 of the Standard Specifications to read:

“1019.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Cement	1001
(b) Water	1002
(c) Fine Aggregate for Controlled Low-Strength Material (CLSM).....	1003.06
(d) Fly Ash	1010
(e) Ground Granulated Blast Furnace (GGBF) Slag.....	1010
(f) Admixtures (Note 1)	

Note 1. The air-entraining admixture may be in powder or liquid form. The air content produced by the admixture shall be 15-25 percent when incorporated into Mix 2 or an equivalent mixture as determined by the Department and tested according to AASHTO T 121 or AASHTO T 152. The testing according to AASHTO T 121 or AASHTO T 152 shall be performed by an independent lab a minimum of once every five years, and the test results shall be provided to the Department. The Department will maintain a qualified product list.”

Revise the third paragraph of Article 1019.04 of the Standard Specifications to read:

“The Engineer will instruct the Contractor to adjust the proportions of the mix design in the field as needed to meet the design criteria, provide adequate flowability, maintain proper solid suspension, or other criteria established by the Engineer.”

Revise Article 1019.05 of the Standard Specifications to read:

“1019.05 Department Mix Design. The Department mix design shall be Mix 1, 2, or 3 and shall be proportioned to yield approximately one cubic yard (cubic meter).

Mix 1	
Cement	50 lb (30 kg)
Fly Ash – Class C or F, and/or GGBF Slag	125 lb (74 kg)
Fine Aggregate – Saturated Surface Dry	2900 lb (1720 kg)
Water	50-65 gal (248-322 L)
Air Content	No air is entrained

Mix 2	
Cement	125 lb (74 kg)
Fine Aggregate – Saturated Surface Dry	2500 lb (1483 kg)
Water	35-50 gal (173-248 L)
Air Content	15-25 %

Mix 3	
Cement	40 lb (24 kg)
Fly Ash – Class C or F, and/or GGBF Slag	125 lb (74 kg)
Fine Aggregate – Saturated Surface Dry	2500 lb (1483 kg)
Water	35-50 gal (179-248 L)
Air Content	15-25 %”

Revise Article 1020.04, Table 1, Note (8) of the Standard Specifications to read:

- “(8) In addition to the Type III portland cement, 100 lb/cu yd of ground granulated blast-furnace slag and 50 lb/cu yd of microsilica (silica fume) shall be used. For an air temperature greater than 85 °F, the Type III portland cement may be replaced with Type I, IL, or II portland cement.”

Revise Article 1020.04, Table 1 (Metric), Note (8) of the Standard Specifications to read:

- “(8) In addition to the Type III portland cement, 60 kg/cu m of ground granulated blast-furnace slag and 30 kg/cu m of microsilica (silica fume) shall be used. For an air temperature greater than 30 °C, the Type III portland cement may be replaced with Type I, IL, or II portland cement.”

Revise Note 9 of Table 1 of Article 1020.04 of the Standard Specifications to read:

- “(9) The cement shall be a rapid hardening according to Article 1001.01(d). Minimum or maximum cement factor may be adjusted when approved by the Engineer.”

Revise the second paragraph of Article 1020.05(a) of the Standard Specifications to read:

“For a mix design using a portland-pozzolan cement, portland blast-furnace slag cement, portland-limestone cement, or replacing portland cement with finely divided minerals per Articles 1020.05(c) and 1020.05(d), the Contractor may submit a mix design with a minimum portland cement content less than 400 lbs/cu yd (237 kg/cu m), but not less than 375 lbs/cu yd (222 kg/cu m), if the mix design is shown to have a minimum relative dynamic modulus of elasticity of 80 percent determined according to AASHTO T 161. Testing shall be performed by an independent laboratory accredited by AASHTO re:source for Portland Cement Concrete.”

Revise the first sentence of the first paragraph of Article 1020.05(b) of the Standard Specifications to read:

“Corrosion inhibitors and concrete admixtures shall be according to the qualified product lists.”

Delete the fourth and fifth sentences of the second paragraph of Article 1020.05(b) of the Standard Specifications.

Revise Article 1020.05(b)(5) of the Standard Specifications to read:

- “(5) For Class PP-4 concrete, a high range water-reducing admixture, retarder, and/or hydration stabilizer may be used in addition to the air-entraining admixture. The Contractor also has the option to use a water-reducing admixture with the high range water-reducing admixture. An accelerator shall not be used. A mobile portland cement concrete plant shall be used to produce the patching mixture.

For PP-5 concrete, a non-chloride accelerator, high range water-reducing admixture, retarder, hydration stabilizer, and/or air-entraining admixture may be used. The accelerator, high range water-reducing admixture, retarder, hydration stabilizer, and/or air-entraining admixture shall be per the Contractor's recommendation and dosage.

The qualified product list of concrete admixtures shall not apply. A mobile portland cement concrete plant shall be used to produce the patching mixture.”

Revise second paragraph of Article 1020.05(b)(10) of the Standard Specifications to read:

“When calcium nitrite is used, it shall be added at the rate of 4 gal/cu yd (20 L/cu m) and shall be added to the mix immediately after all compatible admixtures have been introduced to the batch. Other corrosion inhibitors shall be added per the manufacturer’s specifications.”

Delete the third paragraph of Article 1020.05(b)(10) of the Standard Specifications.

Revise Article 1020.15(b)(1)c. of the Standard Specifications to read:

“c. The minimum portland cement content in the mixture shall be 375 lbs/cu yd (222 kg/cu m). When the total of organic processing additions, inorganic processing additions, and limestone addition exceed 5.0 percent in the cement, the minimum portland cement content in the mixture shall be 400 lbs/cu yd (237 kg/cu m). For a drilled shaft, foundation, footing, or substructure, the minimum portland cement may be reduced to as low as 330 lbs/cu yd (196 kg/cu m) if the concrete has adequate freeze/thaw durability. The Contractor shall provide freeze/thaw test results according to AASHTO T 161, and the relative dynamic modulus of elasticity of the mix design shall be a minimum of 80 percent. Testing shall be performed by an independent laboratory accredited by AASHTO re:source for Portland Cement Concrete. Freeze/thaw testing will not be required for concrete that will not be exposed to freezing and thawing conditions as determined by the Engineer.”

Revise Article 1021.01 of the Standard Specifications to read:

“1021.01 General. Admixtures shall be furnished in liquid or powder form ready for use. The admixtures shall be delivered in the manufacturer's original containers, bulk tank trucks or such containers or tanks as are acceptable to the Engineer. Delivery shall be accompanied by a ticket which clearly identifies the manufacturer, the date of manufacture, and trade name of the material. Containers shall be readily identifiable as to manufacturer, the date of manufacture, and trade name of the material they contain.

Concrete admixtures shall be on one of the Department’s qualified product lists. Unless otherwise noted, admixtures shall have successfully completed and remain current with the AASHTO Product Eval and Audit Concrete Admixture (CADD) testing program. For admixture submittals to the Department; the product brand name, manufacturer name, admixture type or types, an electronic link to the product’s technical data sheet, and the NTPEP testing number which contains an electronic link to all test data shall be provided. In addition, a letter shall be submitted certifying that no changes have been made in the formulation of the material since the most current round of tests conducted by AASHTO Product Eval and Audit. After 28 days of testing by AASHTO Product Eval and Audit, air-entraining admixtures may be provisionally approved and used on Departmental projects. For all other admixtures, unless otherwise noted, the time period after which provisionally approved status may be earned is 6 months.

The manufacturer shall include the following in the submittal to the AASHTO Product Eval and Audit CADD testing program: the manufacturing range for specific gravity, the midpoint and

manufacturing range for residue by oven drying, and manufacturing range of pH. The submittal shall also include an infrared spectrophotometer trace no more than five years old.

For air-entraining admixtures according to Article 1021.02, the specific gravity allowable manufacturing range established by the manufacturer shall be according to AASHTO M 194. For residue by oven drying and pH, the allowable manufacturing range and test methods shall be according to AASHTO M 194.

For admixtures according to Articles 1021.03, 1021.04, 1021.05, 1021.06, 1021.07, and 1021.08, the pH allowable manufacturing range established by the manufacturer shall be according to ASTM E 70. For specific gravity and residue by oven drying, the allowable manufacturing range and test methods shall be according to AASHTO M 194.

All admixtures, except chloride-based accelerators, shall contain a maximum of 0.3 percent chloride by weight (mass) as determined by an appropriate test method. To verify the test result, the Department will use Illinois Modified AASHTO T 260, Procedure A, Method 1.

Prior to final approval of an admixture, the Engineer reserves the right to request a sample for testing. The test and reference concrete mixtures tested by the Engineer will contain a cement content of 5.65 cwt/cu yd (335 kg/cu m). For freeze-thaw testing, the Department will perform the test according to Illinois Modified AASHTO T 161. The flexural strength test will be performed according to AASHTO T 177. If the Engineer decides to test the admixture, the manufacturer shall submit AASHTO T 197 water content and set time test results on the standard cement used by the Department. The manufacturer may select their lab or an independent lab to perform this testing. The laboratory is not required to be accredited by AASHTO.

Random field samples may be taken by the Department to verify an admixture meets specification. A split sample will be provided to the manufacturer if requested. Admixtures that do not meet specification requirements or an allowable manufacturing range established by the manufacturer shall be replaced with new material."

Revise Article 1021.03 of the Standard Specifications to read:

"1021.03 Retarding and Water-Reducing Admixtures. The admixture shall be according to the following.

- (a) Retarding admixtures shall be according to AASHTO M 194, Type B (retarding) or Type D (water-reducing and retarding).
- (b) Water-reducing admixtures shall be according to AASHTO M 194, Type A.
- (c) High range water-reducing admixtures shall be according to AASHTO M 194, Type F (high range water-reducing) or Type G (high range water-reducing and retarding)."

Revise Article 1021.05 of the Standard Specifications to read:

"1021.05 Self-Consolidating Admixtures. Self-consolidating admixture systems shall consist of either a high range water-reducing admixture only or a high range water-reducing admixture combined with a separate viscosity modifying admixture. The one or two component admixture system shall be capable of producing a concrete that can flow around reinforcement and consolidate under its own weight without additional effort and without segregation.

High range water-reducing admixtures shall be according to AASHTO M 194, Type F.

Viscosity modifying admixtures shall be according to AASHTO M 194, Type S (specific performance)."

Revise Article 1021.06 of the Standard Specifications to read:

"1021.06 Rheology-Controlling Admixture. Rheology-controlling admixtures shall be capable of producing a concrete mixture with a lower yield stress that will consolidate easier for slipform applications used by the Contractor. Rheology-controlling admixtures shall be according to AASHTO M 194, Type S (specific performance)."

Revise Article 1021.07 of the Standard Specifications to read:

"1021.07 Corrosion Inhibitor. The corrosion inhibitor shall be according to one of the following.

(a) Calcium Nitrite. Corrosion inhibitors shall contain a minimum 30 percent calcium nitrite by weight (mass) of solution and shall comply with either the requirements of AASHTO M 194, Type C (accelerating) or the requirements of ASTM C 1582. The corrosion inhibiting performance requirements of ASTM C 1582 shall not apply.

(b) Other Materials. The corrosion inhibitor shall be according to ASTM C 1582.

For submittals requiring testing according to ASTM M 194, Type C (accelerating), the admixture shall meet the requirements of the AASHTO Product Eval and Audit CADD testing program according to Article 1021.01.

For submittals requiring testing according to ASTM C 1582, a report prepared by an independent laboratory accredited by AASHTO re:source for portland cement concrete shall be provided. The report shall show the results of physical tests conducted no more than five years prior to the time of submittal, according to applicable specifications. However, ASTM G 109 test information specified in ASTM C 1582 is not required to be from an independent accredited lab. All other information in ASTM C 1582 shall be from an independent accredited lab. Test data and other information required to be submitted to AASHTO Product Eval and Audit according to Article 1021.01, shall instead be submitted directly to the Department."

Add Article 1021.08 of the Standard Specifications as follows:

"1021.08 Other Specific Performance Admixtures. Other specific performance admixtures shall, at a minimum, be according to AASHTO M 194, Type S (specific performance). The Department also reserves the right to require other testing, as determined by the Engineer, to show evidence of specific performance characteristics.

Initial testing according to AASHTO M 194 may be conducted under the AASHTO Product Eval and Audit CADD testing program according to Article 1021.01, or by an independent laboratory accredited by AASHTO re:source for Portland Cement Concrete. In either case, test data and other information required to be submitted to AASHTO Product Eval and Audit according to Article 1021.01, shall also be submitted directly to the Department. The independent

accredited lab report shall show the results of physical tests conducted no more than five years prior to the time of submittal, according to applicable specifications.”

Add Article 1021.09 of the Standard Specifications as follows:

“1021.09 Latex Admixtures. The latex admixture shall be a uniform, homogeneous, non-toxic, film-forming, polymeric emulsion in water to which all stabilizers have been added at the point of manufacture. The latex admixture shall not contain any chlorides and shall contain 46-49 percent solids.

In lieu of meeting the requirements of Article 1021.01, the Contractor shall submit a manufacturer's certification that the latex emulsion meets the requirements of FHWA Research Report RD-78-35, Chapter VI. The certificate shall include the date of manufacture of the latex admixture, batch or lot number, quantity represented, manufacturer's name, and the location of the manufacturing plant. The latex emulsion shall be sampled and tested in accordance with RD-78-35, Chapter VII, Certification Program.

The latex admixture shall be packaged and stored in containers and storage facilities which will protect the material from freezing and from temperatures above 85°F (30°C). Additionally, the material shall not be stored in direct sunlight and shall be shaded when stored outside of buildings during moderate temperatures.”

Revise Article 1024.01 of the Standard Specifications to read:

“1024.01 Requirements for Grout. The grout shall be proportioned by dry volume, thoroughly mixed, and shall have a minimum temperature of 50 °F (10 °C). Water shall not exceed the minimum needed for placement and finishing.

Materials for the grout shall be according to the following.

Item	Article/Section
(a) Cement	1001
(b) Water	1002
(c) Fine Aggregate	1003.02
(d) Fly Ash	1010
(e) Ground Granulated Blast Furnace (GGBF) Slag.....	1010
(f) Concrete Admixtures	1021”

Revise Note 1 of Article 1024.02 of the Standard Specifications to read:

“Note 1. Nonshrink grout shall be according to ASTM C 1107.

For prestressed concrete applications, the nonshrink grout shall have a water soluble chloride ion content of less than 0.06 percent by weight of cementitious material when tested according to ASTM C 1218 or AASHTO T 260; and for non-prestressed concrete applications, the water soluble chloride ion content shall be less than 0.15 percent by weight of cementitious material. The testing according to ASTM 1107, and either ASTM C 1218 or AASHTO T 260 shall be performed by an independent lab a minimum of once every five years, and the test results shall be provided to the Department. The Department will maintain a qualified product list. Mixing of the nonshrink grout shall be according to the manufacturer’s specifications.”

Revise Article 1029.02 of the Standard Specifications to read:

“ **1029.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Cement.....	1001
(b) Fly Ash	1010
(c) Ground Granulated Blast Furnace (GGBF) Slag	1010
(d) Water.....	1002
(e) Fine Aggregate.....	1003
(f) Concrete Admixtures.....	1021
(g) Foaming Agent (Note 1)	

Note 1. The manufacturer shall submit infrared spectrophotometer trace and test results indicating the foaming agent meets the requirements of ASTM C 869 in order to be on the Department's qualified product list. Submitted data/results shall not be more than five years old.”

Revise the second paragraph of Article 1103.03(a)(4) the Standard Specifications to read:

“The dispenser system shall provide a visual indication that the liquid admixture is actually entering the batch, such as via a transparent or translucent section of tubing or by independent check with an integrated secondary metering device. If approved by the Engineer, an alternate indicator may be used for admixtures dosed at rates of 25 oz/cwt (1630 mL/100 kg) or greater, such as accelerating admixtures, corrosion inhibitors, and viscosity modifying admixtures.”

Revise Article 1103.04 of the Standard Specifications to read:

“ **1103.04 Mobile Portland Cement Concrete Plants.** The mobile concrete plant shall be according to AASHTO M 241 and the Bureau of Materials Policy Memorandum “Approval of Volumetric Mobile Mixers for Concrete”. The mixer shall be capable of carrying sufficient unmixed materials to produce not less than 6 cu yd (4.6 cu m) of concrete.”

Revise the first two sections of Check Sheet #11 “Subsealing of Concrete Pavements” of the Recurring Special Provisions to read:

“Description. This work shall consist of filling voids beneath rigid and composite pavements with cement grout.

Materials. Materials shall be according to the following Articles/Sections of the Standard Specifications:

Item	Article/Section
(a) Cement	1001
(b) Water	1002
(c) Fly Ash	1010
(d) Ground Granulated Blast Furnace (GGBF) Slag.....	1010
(e) Admixtures	1021
(f) Packaged Rapid Hardening Mortar or Concrete	1018”

Revise the Materials section of Check Sheet #28 "Portland Cement Concrete Inlay or Overlay" of the Recurring Special Provisions to read:

"Materials. Materials shall be according to the following Articles/Sections of the Standard Specifications.

Item	Article/Section
(a) Portland Cement Concrete (Note 1).....	1020
(b) Fibers for Concrete	1014
(c) Protective Coat.....	1023.01

Note 1. Class PV concrete shall be used, except the cement factor for central mixed concrete shall be 6.05 cwt/cu yd (360 kg/cu m). A cement factor reduction according to Article 1020.05(b)(8) of the Standard Specifications will be permitted. CA 5 shall not be used and CA 7 may only be used for overlays that are a minimum of 4.5 in. (113 mm) thick. The Class PV concrete shall have a minimum flexural strength of 550 psi (3800 kPa) or a minimum compressive strength of 3000 psi (20,700 kPa) at 14 days."

COMPENSABLE DELAY COSTS (BDE)

Effective: June 2, 2017

Revised: April 1, 2019

Revise Article 107.40(b) of the Standard Specifications to read:

"(b) Compensation. Compensation will not be allowed for delays, inconveniences, or damages sustained by the Contractor from conflicts with facilities not meeting the above definition; or if a conflict with a utility in an unanticipated location does not cause a shutdown of the work or a documentable reduction in the rate of progress exceeding the limits set herein. The provisions of Article 104.03 notwithstanding, compensation for delays caused by a utility in an unanticipated location will be paid according to the provisions of this Article governing minor and major delays or reduced rate of production which are defined as follows.

- (1) Minor Delay. A minor delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two hours, but not to exceed two weeks.
- (2) Major Delay. A major delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two weeks.
- (3) Reduced Rate of Production Delay. A reduced rate of production delay occurs when the rate of production on the work in conflict with the utility in an unanticipated location decreases by more than 25 percent and lasts longer than seven calendar days."

Revise Article 107.40(c) of the Standard Specifications to read:

“(c) Payment. Payment for Minor, Major, and Reduced Rate of Production Delays will be made as follows.

- (1) Minor Delay. Labor idled which cannot be used on other work will be paid for according to Article 109.04(b)(1) and (2) for the time between start of the delay and the minimum remaining hours in the work shift required by the prevailing practice in the area.

Equipment idled which cannot be used on other work, and which is authorized to standby on the project site by the Engineer, will be paid for according to Article 109.04(b)(4).

- (2) Major Delay. Labor will be the same as for a minor delay.

Equipment will be the same as for a minor delay, except Contractor-owned equipment will be limited to two weeks plus the cost of move-out to either the Contractor's yard or another job and the cost to re-mobilize, whichever is less. Rental equipment may be paid for longer than two weeks provided the Contractor presents adequate support to the Department (including lease agreement) to show retaining equipment on the job is the most economical course to follow and in the public interest.

- (3) Reduced Rate of Production Delay. The Contractor will be compensated for the reduced productivity for labor and equipment time in excess of the 25 percent threshold for that portion of the delay in excess of seven calendar days. Determination of compensation will be in accordance with Article 104.02, except labor and material additives will not be permitted.

Payment for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be determined according to Article 109.13.”

Revise Article 108.04(b) of the Standard Specifications to read:

“(b) No working day will be charged under the following conditions.

- (1) When adverse weather prevents work on the controlling item.
- (2) When job conditions due to recent weather prevent work on the controlling item.
- (3) When conduct or lack of conduct by the Department or its consultants, representatives, officers, agents, or employees; delay by the Department in making the site available; or delay in furnishing any items required to be furnished to the Contractor by the Department prevents work on the controlling item.
- (4) When delays caused by utility or railroad adjustments prevent work on the controlling item.

(5) When strikes, lock-outs, extraordinary delays in transportation, or inability to procure critical materials prevent work on the controlling item, as long as these delays are not due to any fault of the Contractor.

(6) When any condition over which the Contractor has no control prevents work on the controlling item."

Revise Article 109.09(f) of the Standard Specifications to read:

"(f) Basis of Payment. After resolution of a claim in favor of the Contractor, any adjustment in time required for the work will be made according to Section 108. Any adjustment in the costs to be paid will be made for direct labor, direct materials, direct equipment, direct jobsite overhead, direct offsite overhead, and other direct costs allowed by the resolution. Adjustments in costs will not be made for interest charges, loss of anticipated profit, undocumented loss of efficiency, home office overhead and unabsorbed overhead other than as allowed by Article 109.13, lost opportunity, preparation of claim expenses and other consequential indirect costs regardless of method of calculation.

The above Basis of Payment is an essential element of the contract and the claim cost recovery of the Contractor shall be so limited."

Add the following to Section 109 of the Standard Specifications.

"109.13 Payment for Contract Delay. Compensation for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be allowed when such costs result from a delay meeting the criteria in the following table.

Contract Type	Cause of Delay	Length of Delay
Working Days	Article 108.04(b)(3) or Article 108.04(b)(4)	No working days have been charged for two consecutive weeks.
Completion Date	Article 108.08(b)(1) or Article 108.08(b)(7)	The Contractor has been granted a minimum two week extension of contract time, according to Article 108.08.

Payment for each of the various costs will be according to the following.

(a) Escalated Material and/or Labor Costs. When the delay causes work, which would have otherwise been completed, to be done after material and/or labor costs have increased, such increases will be paid. Payment for escalated material costs will be limited to the increased costs substantiated by documentation furnished by the Contractor. Payment for escalated labor costs will be limited to those items in Article 109.04(b)(1) and (2), except the 35 percent and 10 percent additives will not be permitted.

(b) Extended Project Overhead. For the duration of the delay, payment for extended project overhead will be paid as follows.

(1) Direct Jobsite and Offsite Overhead. Payment for documented direct jobsite overhead and documented direct offsite overhead, including onsite supervisory and administrative personnel, will be allowed according to the following table.

Original Contract Amount	Supervisory and Administrative Personnel
Up to \$5,000,000	One Project Superintendent
Over \$ 5,000,000 - up to \$25,000,000	One Project Manager, One Project Superintendent or Engineer, and One Clerk
Over \$25,000,000 - up to \$50,000,000	One Project Manager, One Project Superintendent, One Engineer, and One Clerk
Over \$50,000,000	One Project Manager, Two Project Superintendents, One Engineer, and One Clerk

(2) Home Office and Unabsorbed Overhead. Payment for home office and unabsorbed overhead will be calculated as 8 percent of the total delay cost.

(c) Extended Traffic Control. Traffic control required for an extended period of time due to the delay will be paid for according to Article 109.04.

When an extended traffic control adjustment is paid under this provision, an adjusted unit price as provided for in Article 701.20(a) for increase or decrease in the value of work by more than ten percent will not be paid.

Upon payment for a contract delay under this provision, the Contractor shall assign subrogation rights to the Department for the Department's efforts of recovery from any other party for monies paid by the Department as a result of any claim under this provision. The Contractor shall fully cooperate with the Department in its efforts to recover from another party any money paid to the Contractor for delay damages under this provision."

CONCRETE SEALER (BDE)

Effective: November 1, 2023

Replace Section 1026 of the Standard Specifications with the following:

“SECTION 1026. CONCRETE SEALER

1026.01 General. Sealer types shall be according to the listing in AASHTO M 224. All concrete sealer types shall meet the sealer requirements of AASHTO M 224 when tested in accordance with AASHTO T 384. The sealer shall be listed on the Department’s qualified product list.

The sealer shall have a clear or amber color when dry.

The Department will perform the sealer characterization properties of ATR-FTIR spectra, total solids, and specific gravity in accordance with AASHTO M 224.”

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)

Effective: September 1, 2000

Revised: July 2, 2026

1. **OVERVIEW AND GENERAL 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 in accordance with the requirements of 49 CFR Part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory. Award of the contract is conditioned on meeting the requirements of 49 CFR Part 26, and failure by the Contractor to carry out the requirements of Part 26 is a material breach of the contract and may result in the termination of the contract or such other remedies as the Department deems appropriate.
2. **CONTRACTOR ASSURANCE.** All assurances set forth in FHWA 1273 are hereby incorporated by reference and will be physically attached to the final contract and all subcontracts.
3. **CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR.** The Department has determined the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies and that, in the absence of unlawful discrimination and in an arena of fair and open competition, DBE companies can be expected to perform **1.00%** 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 in accordance with the requirements of 49 CFR 26.53 and SBE Memorandum No. 24-02.
4. **IDENTIFICATION OF CERTIFIED DBE.** Information about certified DBE Contractors can be found in the IL UCP Directory. Bidders can obtain additional information and assistance with

identifying DBE-certified companies at the Department's website or by contacting the Department's Bureau of Small Business Enterprises at (217) 785-4611.

PLEASE NOTE: As of October 3, 2025, the U.S. Department of Transportation issued an Interim Final Rule requiring all existing DBE and ACDBE certifications to be re-evaluated for social and economic disadvantage without consideration of race or gender. As of March 24, 2026, the ILUCP has completed reevaluation of those firms that submitted required information by January 31, 2026. DBE and ACDBE Certifications appearing in the IL UCP directory as certified have been recertified under the current federal regulations and may be counted for DBE goal credit. DBE and ACDBE firms appearing in this directory as ineligible have not submitted required documentation for reevaluation to date. Ineligible firms cannot currently be counted for DBE goal credit, but HAVE NOT BEEN DECERTIFIED and may still submit documentation to be reevaluated. All firms decertified under the October 3, 2025 Interim Final Rule reevaluation process have been removed from the Directory. Additional information regarding the IFR and the current status of the DBE/ACDBE program can be found at <https://idot.illinois.gov/doing-business/certifications/dbe.html>.

PLEASE BE ADVISED THAT A FIRM THAT IS INDICATED AS INELIGIBLE CANNOT BE USED FOR GOAL CREDIT. IT IS THE RESPONSIBILITY OF THE PRIME CONTRACTOR TO VERIFY THAT ANY FIRM RELIED UPON FOR DBE GOAL CREDIT IN A UTILIZATION PLAN IS CURRENTLY CERTIFIED AND CAN BE COUNTED FOR GOAL CREDIT AT THE TIME OF BID.

5. BIDDING PROCEDURES. Compliance with this Special Provision and SBE Policy Memorandum 24-02 is a material bidding requirement. The following shall be included with the bid.
 - (a) DBE Utilization Plan (form SBE 2026) documenting enough DBE participation has been obtained to meet the goal, or a good faith effort has been made to meet the goal even though the efforts did not succeed in obtaining enough DBE participation to meet the goal.
 - (b) Applicable DBE Participation Statement (form SBE 2023, 2024, and/or 2025) for each DBE firm the bidder has committed to perform the work to achieve the contract goal.

The required forms and documentation shall be submitted as a single .pdf file using the "Integrated Contractor Exchange (iCX)" application within the Department's "EBids System".

The Department will not accept a bid if it does not meet the bidding procedures set forth herein and the bid will be declared non-responsive. A bidder declared non-responsive for failure to meet the bidding procedures will not give rise to an administrative reconsideration. In the event the bid is declared non-responsive, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty and may deny authorization to bid the project if re-advertised for bids.

6. UTILIZATION PLAN EVALUATION. The contract will not be awarded until the Utilization Plan is approved. All information submitted by the bidder must be complete, accurate, and adequately document the bidder has committed to DBE participation sufficient to meet the goal, or that the bidder has made good faith efforts to do so, in the event the bidder cannot meet the goal, in order for the Department to 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 Department determines, based upon the documentation submitted, that the bidder has made a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A and the requirements of SBE 2026.

If the Department determines that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan of that determination in accordance with SBE Policy Memorandum 24-02.

7. CALCULATING DBE PARTICIPATION. The Utilization Plan values represent work the bidder commits to have performed by the specified DBEs 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 firms. 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 guidelines for counting goal credit are provided in 49 CFR Part 26.55. In evaluating Utilization Plans for award the Department will count goal credit as set forth in Part 26 and in accordance with SBE Policy Memorandum 24-02.
8. CONTRACT COMPLIANCE. The Contractor must utilize the specific DBEs listed to perform the work and supply the materials for which each DBE is listed in the Contractor's approved Utilization Plan, unless the Contractor obtains the Department's written consent to terminate the DBE or any portion of its work. The DBE Utilization Plan approved by SBE is a condition-of-award, and any deviation to that Utilization Plan, the work set forth therein to be performed by DBE firms, or the DBE firms specified to perform that work, must be approved, in writing, by the Department in accordance with federal regulatory requirements. Deviation from the DBE Utilization Plan condition-of-award without such written approval is a violation of the contract and may result in termination of the contract or such other remedy the Department deems appropriate. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan.
 - (a) NOTICE OF DBE PERFORMANCE. The Contractor shall provide the Engineer with at least three days advance notice of when all DBE firms are expected to perform the work committed under the Contractor's Utilization Plan.
 - (b) SUBCONTRACT. If awarded the contract, the Contractor is required to enter into written subcontracts with all DBE firms indicated in the approved Utilization Plan and must provide copies of fully executed DBE subcontracts to the Department upon request. Subcontractors shall ensure that all lower tier subcontracts or agreements with DBEs to supply labor or materials be performed in accordance with this Special Provision.
 - (c) PAYMENT TO DBE FIRMS. 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 goal has been paid to the DBE. The Contractor shall document and report all payments for work performed by DBE certified firms in accordance with Article 109.11 of the

Standard Specifications. All records of payment for work performed by DBE certified firms shall be made available to the Department upon request.

- (d) **FINAL PAYMENT.** After the performance of the final item of work or trucking, or delivery of material by a DBE and final payment to the DBE by the Contractor, but not later than 30 calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Agreement (form SBE 2115) to the Engineer. 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.
- (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.

ENGINEER'S FIELD OFFICE (BDE)

Effective: November 1, 2026

Revise the second sentence of Articles 670.02(h)(1) and Article 670.04(e)(1) of the Standard Specifications to read:

“The internet service shall be for unlimited data with a minimum internet data download speed of 200 megabits per second.”

EROSION CONTROL BLANKET (BDE)

Effective: August 1, 2025

Revise Article 251.02 of the Standard Specifications to read:

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

Item	Article/Section
(a) Compost	1081.05(b)
(b) Mulch	1081.06(a)
(c) Chemical Mulch Binder	1081.06(a)(3)
(d) Chemical Compost Binder	1081.06(a)(4)
(e) Erosion Control Blanket	1081.10(a)
(f) Wildlife Friendly Erosion Control Blanket	1081.10(b)
(g) Wire Staples	1081.10(c)
(h) Wood Stakes	1081.10(d)
(i) Turf Reinforcement Mat	1081.10(e)”

Revise the first and second sentences of Article 251.04 of the Standard Specifications to read:

“251.04 Erosion Control Blanket. All erosion control blanket materials shall be placed on the areas specified within 24 hours of seed placement.”

Revise the second paragraph of Article 251.04 of the Standard Specifications to read:

“After the area has been properly shaped, fertilized (when applicable), and seeded, the blanket shall be laid out flat, evenly, and smoothly, without stretching the material. The erosion control blanket shall be placed according to the manufacture’s recommendations.”

Revise the second sentence of Article 251.06(b) of the Standard Specifications to read:

“Erosion control blanket, wildlife friendly erosion control blanket, and turf reinforcement mat will be measured for payment in square yards (square meters).”

Revise Article 251.07 of the Standard Specifications to read:

“251.07 Basis of Payment. This work will be paid for at the contract unit price per acre (hectare) for MULCH, of the method specified; and at the contract unit price per square yard (square meter) for EROSION CONTROL BLANKET, WILDLIFE FRIENDLY EROSION CONTROL BLANKET, or TURF REINFORCEMENT MAT.”

Revise first sentence of Article 280.04(h) of the Standard Specifications to read:

“This system consists of temporarily installing erosion control blanket or wildlife friendly erosion control blanket over areas that are to be reworked during a later construction phase.”

Revise Article 280.08(g) of the Standard Specifications to read:

“(g) Temporary Erosion Control Blanket. Temporary erosion control blanket will be paid for at the contract unit price per square yard (square meter) for TEMPORARY EROSION CONTROL BLANKET or TEMPORARY WILDLIFE FRIENDLY EROSION CONTROL BLANKET.

The work of removing, storing, and reinstalling the blanket over areas to be reworked more than once will not be paid for separately but shall be included in the cost of the temporary erosion control blanket or temporary wildlife friendly erosion control blanket.”

Revise Article 1081.10 of the Standard Specifications to read:

“1081.10 Erosion Control Blankets. The manufacturer shall furnish a certificate with each shipment stating the amount of product furnished and that the material complies with these requirements.

- (a) Erosion Control Blanket. Erosion control blanket shall be covered on top and bottom, also known as double net, with a 100 percent biodegradable woven, natural fiber or jute net meeting the following.

Material	Minimum Value
Excelsior	80%
Straw	100%
Coconut or Coir	100% Coconut or Coir
Straw/Coconut or Coir	70% Straw / 30% Coconut or Coir

- (b) Wildlife Friendly Erosion Control Blanket. Wildlife friendly erosion control blanket shall be according to Article 1081.10(a) except the netting shall be loose weave, also known as leno weave or gauze weave, with a moveable joint.
- (c) Wire Staples. Staples shall be made from No. 11 gauge or heavier uncoated black carbon steel wire, a minimum of 1 in. (25 mm) wide at the top and a minimum overall length of 8 in. (200 mm).
- (d) Wood Stakes. Hardwood blanket anchors shall be nominally 7 in. (180 mm) long from neck of hook to tip of anchor. The anchor shall have a minimum 1/2 in. (13 mm) curving hook to hold the blanket in place.
- (e) Turf Reinforcement Mat (TRM). The TRM shall be comprised of non-degradable, ultraviolet stabilized synthetic fibers, filaments, netting, and/or wire mesh processed into a three-dimensional reinforced mat. The mats may include degradable material to assist with vegetation establishment. Soil filled mats will not be allowed.

The TRM shall meet the following physical and performance properties:

Property	Value	Test Method
Tensile Strength, lb/ft (kN/m)	150 (2.19) min.	ASTM D 6818
UV Stability, (% Tensile Retained)	80 min.	ASTM D 4355 (1000 Hour Exposure)
Resiliency, (% Thickness Retained)	80 min.	ASTM D 6524
Allowable Shear Stress, lb/sq ft (Pa) ^{1/}	8 (384)	ECTC approved test method and independent laboratory

1/ Minimum shear stress the TRM (fully vegetated) can sustain without physical damage or excess erosion (> 1/2 in. (13 mm) soil loss) during a 30 minute flow event in large scale testing.

For TRMs containing degradable components, all property values shall be obtained on the non-degradable portion of the matting alone.”

FUEL COST ADJUSTMENT (BDE)

Effective: April 1, 2009

Revised: August 1, 2017

Description. Fuel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in fuel prices when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract. Failure to indicate "Yes" for any category of work will make that category of work exempt from fuel cost adjustment.

General. The fuel cost adjustment shall apply to contract pay items as grouped by category. The adjustment shall only apply to those categories of work checked "Yes", and only when the cumulative plan quantities for a category exceed the required threshold. Adjustments to work items in a category, either up or down, and extra work paid for by agreed unit price will be subject to fuel cost adjustment only when the category representing the added work was subject to the fuel cost adjustment. Extra work paid for at a lump sum price or by force account will not be subject to fuel cost adjustment. Category descriptions and thresholds for application and the fuel usage factors which are applicable to each are as follows:

(a) Categories of Work.

- (1) Category A: Earthwork. Contract pay items performed under Sections 202, 204, and 206 including any modified standard or nonstandard items where the character of the work to be performed is considered earthwork. The cumulative total of all applicable item plan quantities shall exceed 25,000 cu yd (20,000 cu m). Included in the fuel usage factor is a weighted average 0.10 gal/cu yd (0.50 liters/cu m) factor for trucking.
- (2) Category B: Subbases and Aggregate Base Courses. Contract pay items constructed under Sections 311, 312 and 351 including any modified standard or nonstandard items where the character of the work to be performed is considered construction of a subbase or aggregate, stabilized or modified base course. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is a 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (3) Category C: Hot-Mix Asphalt (HMA) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 355, 406, 407 and 482 including any modified standard or nonstandard items where the character of the work to be performed is considered HMA bases, pavements and shoulders. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (4) Category D: Portland Cement Concrete (PCC) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 353, 420, 421 and 483 including any modified standard or nonstandard items where the character of the work to be performed is considered PCC base, pavement or shoulder. The cumulative total of all applicable item plan quantities shall exceed 7500 sq yd (6000 sq m). Included in the fuel usage factor is 1.20 gal/cu yd (5.94 liters/cu m) factor for trucking.
- (5) Category E: Structures. Structure items having a cumulative bid price that exceeds \$250,000 for pay items constructed under Sections 502, 503, 504, 505, 512, 516 and

540 including any modified standard or nonstandard items where the character of the work to be performed is considered structure work when similar to that performed under these sections and not included in categories A through D.

(b) Fuel Usage Factors.

English Units		
Category	Factor	Units
A - Earthwork	0.34	gal / cu yd
B – Subbase and Aggregate Base courses	0.62	gal / ton
C – HMA Bases, Pavements and Shoulders	1.05	gal / ton
D – PCC Bases, Pavements and Shoulders	2.53	gal / cu yd
E – Structures	8.00	gal / \$1000

Metric Units		
Category	Factor	Units
A - Earthwork	1.68	liters / cu m
B – Subbase and Aggregate Base courses	2.58	liters / metric ton
C – HMA Bases, Pavements and Shoulders	4.37	liters / metric ton
D – PCC Bases, Pavements and Shoulders	12.52	liters / cu m
E – Structures	30.28	liters / \$1000

(c) Quantity Conversion Factors.

Category	Conversion	Factor
B	sq yd to ton	0.057 ton / sq yd / in depth
	sq m to metric ton	0.00243 metric ton / sq m / mm depth
C	sq yd to ton	0.056 ton / sq yd / in depth
	sq m to metric ton	0.00239 m ton / sq m / mm depth
D	sq yd to cu yd	0.028 cu yd / sq yd / in depth
	sq m to cu m	0.001 cu m / sq m / mm depth

Method of Adjustment. Fuel cost adjustments will be computed as follows.

$$CA = (FPI_P - FPI_L) \times FUF \times Q$$

Where: CA = Cost Adjustment, \$
 FPI_P = Fuel Price Index, as published by the Department for the month the work is performed, \$/gal (\$/liter)
 FPI_L = Fuel Price Index, as published by the Department for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price, \$/gal (\$/liter)
 FUF = Fuel Usage Factor in the pay item(s) being adjusted
 Q = Authorized construction Quantity, tons (metric tons) or cu yd (cu m)

The entire FUF indicated in paragraph (b) will be used regardless of use of trucking to perform the work.

Basis of Payment. Fuel cost adjustments may be positive or negative but will only be made when there is a difference between the FPI_L and FPI_P in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(FPI_L - FPI_P) \div FPI_L\} \times 100$$

Fuel cost adjustments will be calculated for each calendar month in which applicable work is performed; and will be paid or deducted when all other contract requirements for the items of work are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

GUARDRAIL (BDE)

Effective: November 1, 2025

Revise Article 701.17(f) of the Standard Specifications to read:

- “(f) Guardrail. Where guardrail is temporarily removed or where the guardrail installation is incomplete, Type II barricades or drums shall be placed at 50 ft (15 m) centers during completion of the work.

Guardrail installation shall be completed within three calendar days of removal or shielded with a temporary longitudinal traffic barrier approved by the Engineer.

On staged construction projects all guardrail and end terminal installations shall be complete prior to switching traffic.”

INLET FILTERS

Effective: April 1, 2026

Revise the first paragraph of Article 1081.15(h) of the Standard Specifications to read:

“(h) Inlet Filters. An inlet filter shall consist of a steel frame with a two piece geotextile fabric bag or a single reinforced geotextile fabric bag attached with a stainless steel band and locking cap that is suspended from the frame. A clean, used bag and a used steel frame in good condition meeting the approval of the Engineer may be substituted for new materials. Materials for the inlet filter assembly shall be according to the following.”

Revise Article 1081.15(h)(3) of the Standard Specifications to read:

“(3) Geotextile Fabric Bag. The sediment bag shall have a minimum silt and debris capacity of 2.0 cu ft (0.06 cu m). The sediment bag shall also meet one of the following options.

(1) OPTION 1. Two piece geotextile fabric bag.

The inner filter bag shall be constructed of a polypropylene geotextile fabric according to the following.

Inner Filter Bag		
Material Property	Test Method	Minimum Average Roll Value
Grab Tensile Strength	ASTM D 4632	100 lb (45 kg)
Grab Tensile Elongation	ASTM D 4632	50%
Puncture Strength	ASTM D 4833/ ASTM D 6241	65 lb (29 kg)
Trapezoidal Tear	ASTM D 4533	45 lb (20 kg)
UV Resistance	ASTM D 4355	70% at 500 hours
Apparent Opening Size	ASTM D 4751	No. 70 (212 µm) sieve
Permittivity	ASTM D 4491	2.0/sec
Water Flow Rate	ASTM D 4491	145 gpm/sq ft (5900 Lpm/sq m)

The outer reinforcement bag shall be constructed of a polyester mesh material according to the following.

Outer Reinforcement Bag		
Material Property	Test Method	Value
Content	ASTM D 629	Polyester
Weight	ASTM D 3776	4.55 oz/sq yd (155 g/sq m) $\pm$ 15%
Apparent Opening Size	ASTM D 4751	No. 30 (600 μ m) sieve
Water Flow Rate	ASTM D 4491	225 gpm/sq ft (9150 Lpm/sq m)
Burst	ASTM D 3786/ ASTM D 3787	120 psi (830 kPa) min.
Thickness	ASTM D 1777	0.040 $\pm$ 0.0050 in. (1.0 $\pm$ 0.1 mm)

b. OPTION 2. Reinforced geotextile fabric bag.

The filter bag shall be constructed of a polypropylene geotextile fabric reinforced with continuous filament fiberglass according to the following.

Reinforced Filter Bag		
Material Property	Test Method	Value or Minimum Average Roll Value
Weight	ASTM D 3776	5.00 oz/sq yd (170 g/sq m) $\pm$ 15%
Grab Tensile Strength	ASTM D 4632	200 lb (90 kg)
Grab Tensile Elongation	ASTM D 4632	50%
Puncture Strength	ASTM D 4833/ ASTM D 6241	95 lb (42 kg)
Trapezoidal Tear	ASTM D 4533	70 lb (31 kg)
Burst Strength	ASTM D 3786/ ASTM D 3787	325 psi (2240 kPa)
UV Resistance	ASTM D 4355	70% at 500 hours
Apparent Opening Size	ASTM D 4751	No. 70 (212 μ m) sieve
Permittivity	ASTM D 4491	2.0/sec
Water Flow Rate	ASTM D 4491	145 gpm/sq ft (5900 Lpm/sq m)

- (4) Certification. The manufacturer shall furnish a certification with each shipment of inlet filters, stating the amount of product furnished and that the material complies with these requirements.”

PAVEMENT MARKING (BDE)

Effective: April 1, 2025

Revised: November 1, 2025

Revise the fourth sentence of the fourth paragraph of Article 780.05 of the Standard Specifications to read:

“Grooves for letters and symbols shall be cut in a rectangular shape or in the shape of the proposed marking so the entire marking will fit within the limits of the grooved area.”

Revise the last sentence of the third paragraph of Article 780.08 of the Standard Specifications to read:

“The Contractor shall install the preformed plastic pavement markings according to the manufacturer’s recommendations.”

Revise the second sentence of the first paragraph of Article 780.13 of the Standard Specifications to read:

“In addition, thermoplastic, preformed plastic, epoxy, preformed thermoplastic, polyurea, and modified urethane pavement markings will be inspected following a winter performance period that extends from November 15 to April 1 of the next year.”

PREFORMED PLASTIC PAVEMENT MARKING (BDE)

Effective: June 2, 2024

Revise Article 1095.03(h) of the Standard Specifications to read:

“(h) Glass Beads. Glass beads shall be colorless and uniformly distributed throughout the yellow and white portions of the material only. A top coating of beads shall be bonded to or directly embedded into the surface of the markings such that the beads are not easily removed when the film is scratched firmly with a thumb nail.

The glass bead refractive index shall be tested using the liquid immersion method.

Type B material shall have an inner mix of glass beads with a minimum refractive index of 1.50 and a top coating of ceramic beads bonded to top urethane wear surface with a minimum refractive index of 1.70. Beads with a refractive index greater than 1.80 shall not be used.

Type C material shall have glass beads with a minimum refractive index of 1.50 and a layer of skid resistant ceramic particles bonded to the top urethane wear surface. The urethane wear surface shall have a nominal thickness of 5 mils (0.13 mm).”

Revise Article 1095.03(n) of the Standard Specifications to read:

“(n) Sampling and Inspection.

(1) Sample. Prior to approval and use of preformed plastic pavement markings, the manufacturer shall submit a notarized certification from an independent laboratory, together with the results of all tests, stating that the material meets the requirements as set forth herein. The independent laboratory test report shall state the lot tested, the manufacturer’s name, and the date of manufacture.

After initial approval by the Department, samples and certification by the manufacturer shall be submitted for each subsequent batch used. The manufacturer shall submit a certification stating that the material meets the requirements as set forth herein and is

essentially identical to the material sent for qualification. The certification shall state the lot tested, the manufacturer's name, and the date of manufacture.

- (2) Inspection. The Contractor shall provide a manufacturer's certification to the Engineer stating the material meets all requirements of this specification. All material samples for acceptance tests will be taken or witnessed by a representative of the Bureau of Materials and will be submitted to the Engineer of Materials, 126 East Ash Street, Springfield, Illinois 62704-4766 at least 30 days in advance of the pavement marking operations."

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (BDE)

Effective: January 1, 2024

Revised: April 1, 2026

Revise the first paragraph of Article 669.04 of the Standard Specifications to read:

"669.04 Regulated Substances Monitoring. Regulated substances monitoring includes environmental observation and field screening during regulated substances management activities. The excavated soil and groundwater within the work areas shall be managed as either uncontaminated soil, hazardous waste, special waste, or non-special waste.

As part of the regulated substances monitoring, the monitoring personnel shall perform and document the applicable duties listed on form BDE 2732 "Regulated Substances Monitoring Daily Record (RSMDB)".

Revise the first two sentences of the nineteenth paragraph of Article 669.05 of the Standard Specifications to read:

"The Contractor shall coordinate waste disposal approvals with the disposal facility and provide the specific analytical testing requirements of that facility. The Contractor shall make all arrangements for collection, transportation, and analysis of landfill acceptance testing."

Revise the last paragraph of Article 669.05 of the Standard Specifications to read:

"The Contractor shall select a permitted landfill facility or CCDD/USFO facility meeting the requirements of 35 Ill. Admin. Code Parts 810-814 or Part 1100, respectively. The Department will review and approve or reject the facility proposed by the Contractor based upon information provided in BDE 2730. The Contractor shall verify whether the selected facility is compliant with those applicable standards as mandated by their permit and whether the facility is presently, has previously been, or has never been, on the United States Environmental Protection Agency (U.S. EPA) National Priorities List or the Resource Conservation and Recovery Act (RCRA) List of Violating Facilities. The use of a Contractor selected facility shall in no manner delay the construction schedule or alter the Contractor's responsibilities as set forth."

Revise the first paragraph of Article 669.07 of the Standard Specifications to read:

"669.07 Temporary Staging. Soil classified according to Articles 669.05(a)(2), (b)(1), or (c) may be temporarily staged at the Contractor's option. All other soil classified according to Articles 669.05(a)(1), (a)(3), (a)(4), (a)(5), (a)(6), or (b)(2) shall be managed and disposed of without temporary staging to the greatest extent practicable. If circumstances beyond the

Contractor's control require temporary staging of these latter materials, the Contractor shall request approval from the Engineer in writing.

Topsoil for re-use as final cover which has been field screened and found not to exhibit PID readings over daily background readings as documented on the BDE 2732, visual staining or odors, and is classified according to Articles 669.05(a)(2), (a)(3), (a)(4), (b)(1), or (c) may be temporarily staged at the Contractor's option."

Add the following paragraph after the fourth paragraph of Article 669.10 of the Standard Specifications.

"Regulated substances monitoring will be measured for payment per calendar day, where 4 or more hours of monitoring activities is defined as 1.0 calendar day and less than 4 hours of monitoring activities is defined as 0.5 calendar day."

Revise the second paragraph of Article 669.11 of the Standard Specification to read:

"Regulated substances monitoring, including completion of form BDE 2732 for each day of work, will be paid for at the contract unit price per calendar day for REGULATED SUBSTANCES MONITORING. In no case will more than 1.0 calendar day be paid on a given calendar day."

Add the following paragraph after the sixth paragraph of Article 669.11 of the Standard Specifications.

"The sampling and testing of effluent water derived from dewatering discharges for priority pollutants volatile organic compounds (VOCs), priority pollutants semi-volatile organic compounds (SVOCs), or priority pollutants metals, will be paid for at the contract unit price per each for VOCS GROUNDWATER ANALYSIS using EPA Method 8260B, SVOCS GROUNDWATER ANALYSIS using EPA Method 8270C, or RCRA METALS GROUNDWATER ANALYSIS using EPA Methods 6010B and 7471A. This price shall include transporting the sample from the job site to the laboratory."

Revise the first sentence of the eight paragraph of Article 669.11 of the Standard Specifications to read:

"Payment for temporary staging of soil classified according to Articles 669.05(a)(1), (a)(3), (a)(4), (a)(5), (a)(6), or (b)(2) to be managed and disposed of, if required and approved by the Engineer, will be paid according to Article 109.04."

SIGN PANELS AND APPURTENANCES (BDE)

Effective: January 1, 2025

Revised: January 1, 2026

Add Article 720.02(c) of the Standard Specifications to read:

"(c) Aluminum Epoxy Mastic1008.03"

Revise the second and third paragraphs of Article 720.02 of the Standard Specifications to read:

"The sign mounting support channel shall be manufactured from steel or aluminum and shall be according to Standard 720001.

Steel support channels shall be according to ASTM A 1011 (A 1011M), ASTM A 635 (A 635M), ASTM A 568 (A 568M), or ASTM A 684 (A 684M), and shall be galvanized. Galvanizing shall be according to ASTM A 653 (A 653M) when galvanized before fabrication, and AASHTO M 111 (M 111M) when galvanized after fabrication. Field or post fabricated drilled holes shall be spot painted with one coat of aluminum epoxy mastic paint prior to installation.”

Revise the fifth paragraph of Article 720.02 of the Standard Specifications to read:

“The stainless steel banding for mounting signs or sign support channels to light or signal standards shall be according to ASTM A 240 (A 240M) Type 302 stainless steel.”

Revise the first sentence of the tenth paragraph of Article 720.03 of the Standard Specifications to read:

“The backs of all sign panels shall be marked in a manner designed to last as long as the sign face material, in letters and numerals at least 3/8 in. (9.5 mm) but no more than 3/4 in. (19 mm) in height with the month and year of manufacture, the name of the sign manufacturer, the name of the sign sheeting manufacturer, the method of manufacture (“screened”, “EC film”, “direct applied”, or “digital print”), and the initials IDOT.”

Revise the first sentence of the fourth paragraph of Article 1091.03(a)(10) of the Standard Specifications to read:

“Transparent colors screened, or transparent acrylic electronic cutting films, or digital printing on white sheeting, shall meet the minimum initial coefficient of retroreflection values of the 0.2 degree observation angle, -4.0 degree entrance angle values as listed in the previous tables for the color being applied.”

Add the following after the fourth paragraph of Article 1091.03(a)(10) of the Standard Specifications:

“Digitally printed signs shall be produced using digital print technologies and ink systems, products and processes that comply with the sheeting manufacturer’s recommendation. The digitally printed signs shall be fabricated with a full sign protective overlay film designed to provide a smooth surface needed for retroreflectivity, and to protect the sign from fading and UV degradation. The overlamine shall comply with the sheeting manufacturer’s recommendations to ensure proper adhesion and transparency.”

Add the following after the third paragraph of Article 1106.01 of the Standard Specifications:

“Digitally printed signs may omit protective overlay film.”

SOURCE OF SUPPLY AND QUALITY REQUIREMENTS (BDE)

Effective: January 2, 2023

Revised: January 1, 2026

Revise the third through ninth paragraphs of Article 106.01 of the Standard Specifications to read:

“Articles, materials, and supplies shall be classified into only one of the following categories.

- (a) Iron and Steel. All iron and steel products, which are to be incorporated into the work, shall be domestically manufactured or produced and fabricated, unless an exception is expressly permitted under Federal and/or State law and written permission is given by the Department. The Contractor shall obtain from the iron or steel producer and/or fabricator, in addition to the mill analysis, a certification that all iron or steel materials meet these domestic source requirements.

The applications of all coatings, epoxy, galvanizing, painting, etc. to iron and steel products shall be domestically applied.

- (b) Manufactured Products. Manufactured products shall include articles, materials or supplies that have been processed into a specific form or shape; or have been combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies. Manufactured products incorporated into the work shall have the final assembly for the manufacturing process occur domestically.

A manufactured product may include components that are construction materials, iron or steel products, or exempt materials.

Precast concrete products and intelligent transportation systems (ITS) or other electronic hardware systems shall comply with the requirements of Article 106.01(a) in addition to the requirements of manufactured products.

- (c) Construction Materials. All manufacturing processes for construction materials shall occur within the United States. Construction materials shall include an article, material, or supply consisting of only one of the following.

- (1) Non-ferrous metals;
- (2) Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- (3) Glass (including optic glass);
- (4) Fiber optic cable (including drop cable);
- (5) Optical fiber;
- (6) Lumber;
- (7) Drywall;
- (8) Engineered wood.

Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material.

- (d) Exempt Materials. Materials exempt from domestic production requirements are cement or cementitious materials, aggregates, aggregate binding agents or additives, or items not permanently incorporated into the work. Exempt materials may be combined with other materials into a final form to produce a manufactured product.”

STEEL COST ADJUSTMENT (BDE)

Effective: April 2, 2004

Revised: November 1, 2025

Description. Steel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in steel prices when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract. Failure to indicate “Yes” for any item of work will make that item of steel exempt from steel cost adjustment.

Types of Steel Products. An adjustment will be made for fluctuations in the cost of steel used in the manufacture of the following items:

Metal Piling (excluding temporary sheet piling)
Structural Steel
Reinforcing Steel

Other steel materials such as dowel bars, tie bars, welded reinforcement, guardrail, steel traffic signal and light poles, towers and mast arms, metal railings (excluding wire fence), and frames and grates will be subject to a steel cost adjustment when the pay items they are used in have a contract value of \$10,000 or greater.

The adjustments shall apply to the above items when they are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply when the item is added as extra work and paid for at a lump sum price or by force account.

Documentation. The following documentation shall be furnished to the Engineer.

- (a) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.
- (b) The quantity of steel, in lb (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

Method of Adjustment. Steel cost adjustments will be computed as follows:

$$SCA = Q \times D$$

Where: SCA = steel cost adjustment, in dollars
Q = quantity of steel incorporated into the work, in lb (kg)
D = price factor, in dollars per lb (kg)

$$D = MPI_M - MPI_L$$

Where: MPI_M = The Materials Cost Index for steel as published by the Engineering News-Record for the month the steel is shipped from the mill. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

MPI_L = The Materials Cost Index for steel as published by the Engineering News-Record for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

The unit weights (masses) of steel that will be used to calculate the steel cost adjustment for the various items will be derived from submitted documentation.

No steel cost adjustment will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

If the Contractor fails to provide the required documentation, the method of adjustment will be calculated as described above; however, the MPI_M will be based on the date the steel arrives at the job site. In this case, an adjustment will only be made when there is a decrease in steel costs.

Basis of Payment. Steel cost adjustments may be positive or negative but will only be made when there is a difference between the MPI_L and MPI_M in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(MPI_L - MPI_M) \div MPI_L\} \times 100$$

Steel cost adjustments will be calculated by the Engineer and will be paid or deducted when all other contract requirements for the items of work are satisfied. Adjustments will only be made for fluctuations in the cost of the steel as described herein. No adjustment will be made for changes in the cost of manufacturing, fabrication, shipping, storage, etc.

The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)

Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

“109.14 Subcontractor and Disadvantaged Business Enterprise Payment Reporting.
The Contractor shall report all payments made to the following parties:

- (a) first tier subcontractors;
- (b) lower tier subcontractors affecting disadvantaged business enterprise (DBE) goal credit;
- (c) material suppliers or trucking firms that are part of the Contractor’s submitted DBE utilization plan.

The report shall be made through the Department’s on-line subcontractor payment reporting system within 21 days of making the payment.”

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)

Effective: November 2, 2017

Revised: April 1, 2019

Replace the second paragraph of Article 109.12 of the Standard Specifications with the following:

“This mobilization payment shall be made at least seven days prior to the subcontractor starting work. The amount paid shall be at the following percentage of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor’s work.

Value of Subcontract Reported on Form BC 260A	Mobilization Percentage
Less than \$10,000	25%
\$10,000 to less than \$20,000	20%
\$20,000 to less than \$40,000	18%
\$40,000 to less than \$60,000	16%
\$60,000 to less than \$80,000	14%
\$80,000 to less than \$100,000	12%
\$100,000 to less than \$250,000	10%
\$250,000 to less than \$500,000	9%
\$500,000 to \$750,000	8%
Over \$750,000	7%”

SUBMISSION OF BIDDERS LIST INFORMATION (BDE)

Effective: January 2, 2025

Revised: March 2, 2025

In accordance with 49 CFR 26.11(c) all DBE and non-DBEs who bid as prime contractors and subcontractors shall provide bidders list information, including all DBE and non-DBE firms from whom the bidder has received a quote or bid to work as a subcontractor, whether or not the bidder has relied upon that bid in placing its bid as the prime contractor.

The bidders list information shall be submitted with the bid using the link provided within the "Integrated Contractor Exchange (iCX)" application of the Department's "EBids System".

SUBMISSION OF PAYROLL RECORDS – FEDERAL AID CONTRACT (BDE)

Effective: April 1, 2026

If the prevailing rate of wages published by the Illinois Department of Labor (IDOL) is equal to or greater than the prevailing wage determination by the United States Secretary of Labor for the same locality for the same type of construction used to classify the federal construction project, the requirements of the Illinois Prevailing Wage Act (820 ILCS 130) shall apply, including the "ILLINOIS PREVAILING WAGE ACT" section below. If not, only the requirements of the Davis-Bacon Act shall apply, including the "DAVIS-BACON ACT" section below.

DAVIS-BACON ACT. Revise the following section of Check Sheet #1 of the Recurring Special Provisions to read:

"STATEMENTS AND PAYROLLS

The payroll records shall include the worker's name, social security number, last known address, telephone number, email address, classification(s) of work actually performed, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof), daily and weekly number of hours actually worked in total, deductions made, and actual wages paid.

The Contractor and each subcontractor shall submit certified payroll records to the Department each week from the start to the completion of their respective work, except that full social security numbers, last known addresses, telephone numbers, and email addresses shall not be included on weekly submittals. Instead, the payrolls need only include an identification number for each employee (e.g., the last four digits of the employee's social security number). The submittals shall be made using LCPTracker Pro software. The software is web-based and can be accessed at <https://lcptracker.com/>. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate option ("No Work", "Suspended", or "Complete") selected."

ILLINOIS PREVAILING WAGE ACT. Revise the following section of Check Sheet #1 of the Recurring Special Provisions to read:

“STATEMENTS AND PAYROLLS

- (1) Prevailing Wages. All wages paid by the Contractor and each subcontractor shall be in compliance with The Prevailing Wage Act (820 ILCS 130), as amended, except where a prevailing wage violates a federal law, order, or ruling, the rate conforming to the federal law, order, or ruling shall govern. The Contractor shall be responsible to notify each subcontractor of the wage rates set forth in this contract and any revisions thereto. If the Department of Labor revises the wage rates, the Contractor will not be allowed additional compensation on account of said revisions.
- (2) Payroll Records. The Contractor and each subcontractor shall make and keep, for a period of five years from the later of the date of final payment under the contract or completion of the contract, records of the wages paid to his/her workers. The payroll records shall include the worker's name, the worker's address, the worker's telephone number when available, the worker's social security number, the worker's classification or classifications, the worker's gross and net wages paid in each pay period, the worker's number of hours worked each day, and the worker's starting and ending times of work each day. However, any Contractor or subcontractor who remits contributions to a fringe benefit fund that is not jointly maintained and jointly governed by one or more employer and one or more labor organization must additionally submit the worker's hourly wage rate, the worker's hourly overtime wage rate, the worker's hourly fringe benefit rates, the name and address of each fringe benefit fund, the plan sponsor of each fringe benefit, if applicable, and the plan administrator of each fringe benefit, if applicable. Upon seven business days' notice, these records shall be available at a location within the State, during reasonable hours, for inspection by the Department or the Department of Labor; and Federal, State, or local law enforcement agencies and prosecutors.
- (3) Submission of Payroll Records. The Contractor and each subcontractor shall, no later than the 15th day of each calendar month, file a certified payroll for the immediately preceding month to the Illinois Department of Labor (IDOL) through the Certified Transcript of Payroll Portal in compliance with the State Prevailing Wage Act (820 ILCS 130). The portal can be found on the IDOL website at <https://labor.illinois.gov>. Payrolls shall be submitted in the format prescribed by the IDOL.

In addition to filing certified payroll(s) with the IDOL, the Contractor and each subcontractor shall certify and submit payroll records to the Department each week from the start to the completion of their respective work, except that full social security numbers shall not be included on weekly submittals. Instead, the payrolls shall include an identification number for each employee (e.g., the last four digits of the employee's social security number). In addition, starting and ending times of work each day may be omitted from the payroll records submitted. The submittals shall be made using LCPtracker Pro software. The software is web-based and can be accessed at <https://lcptracker.com/>. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate option (“No Work”, “Suspended”, or “Complete”) selected.

- (4) Employee Interviews. The Contractor and each subcontractor shall permit his/her employees to be interviewed on the job, during working hours, by compliance investigators of the Department or the Department of Labor.”

SURVEYING SERVICES (BDE)

Effective: April 1, 2025

Delete the fourth paragraph of Article 667.04 of the Standard Specifications.

Delete Section 668 of the Standard Specifications.

TRAINING SPECIAL PROVISIONS (BDE)

Effective: October 15, 1975

Revised: September 2, 2021

This Training Special Provision supersedes Section 7b of the Special Provision entitled “Specific Equal Employment Opportunity Responsibilities,” and is in implementation of 23 U.S.C. 140(a).

As part of the Contractor’s equal employment opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be 6. In the event the Contractor subcontracts a portion of the contract work, it shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The Contractor shall also ensure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the Contractor’s needs and the availability of journeymen in the various classifications within the reasonable area of recruitment. Prior to commencing construction, the Contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. The Contractor will be credited for each trainee it employs on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g. by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps it has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he or she has successfully completed a training course leading to journeyman status or in which he or she has been employed as a journeyman. The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by the Illinois Department of Transportation and the Federal Highway Administration. The Illinois Department of Transportation and the Federal Highway Administration shall approve a program, if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved by not necessarily sponsored by the U.S. Department of Labor Employment Training Administration shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the Contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the Contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the Contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirement of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A Contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The Contractor shall furnish the trainee a copy of the program he will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The Contractor shall provide for the maintenance of records and furnish periodic reports documenting its performance under this Training Special Provision.

For contracts with an awarded contract value of \$500,000 or more, the Contractor is required to comply with the Illinois Works Apprenticeship Initiative (30 ILCS 559/20-20 to 20-25) and all applicable administrative rules to the extent permitted by Section 20-20(g). For federally funded projects, the number of trainees to be trained under this contract, as stated in the Training Special Provisions, will be the established goal for the Illinois Works Apprenticeship Initiative 30 ILCS 559/20-20(g). The Contractor shall make a good faith effort to meet this goal. For federally funded projects, the Illinois Works Apprenticeship Initiative will be implemented using the FHWA approved OJT procedures. The Contractor must comply with the recordkeeping and reporting obligations of the Illinois Works Apprenticeship Initiative for the life of the project, including the certification as to whether the trainee/apprentice labor hour goals were met.

Method of Measurement. The unit of measurement is in hours.

Basis of Payment. This work will be paid for at the contract unit price of 80 cents per hour for TRAINEES. The estimated total number of hours, unit price, and total price have been included in the schedule of prices.

IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION

Effective: August 1, 2012

Revised: February 2, 2017

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

IDOT funds, and various Illinois community colleges operate, pre-apprenticeship training programs throughout the State to provide training and skill-improvement opportunities to promote the increased employment of minority groups, disadvantaged persons and women in all aspects of the highway construction industry. The intent of this IDOT Pre-Apprenticeship Training Program Graduate (TPG) special provision (Special Provision) is to place these certified program graduates on the project site for this Contract in order to provide the graduates with meaningful on-the-job training. Pursuant to this Special Provision, the Contractor must make every reasonable effort to recruit and employ certified TPG trainees to the extent such individuals are available within a practicable distance of the project site.

Specifically, participation of the Contractor or its subcontractor in the Program entitles the participant to reimbursement for graduates' hourly wages at \$15.00 per hour per utilized TPG trainee, subject to the terms of this Special Provision. Reimbursement payment will be made even though the Contractor or subcontractor may also receive additional training program funds from other non-IDOT sources for other non-TPG trainees on the Contract, provided such other source does not specifically prohibit the Contractor or subcontractor from receiving reimbursement from another entity through another program, such as IDOT through the TPG program. With regard to any IDOT funded construction training program other than TPG, however, additional reimbursement for other IDOT programs will not be made beyond the TPG Program described in this Special Provision when the TPG Program is utilized.

No payment will be made to the Contractor if the Contractor or subcontractor fails to provide the required on-site training to TPG trainees, as solely determined by IDOT. A TPG trainee must begin training on the project as soon as the start of work that utilizes the relevant trade skill and the TPG trainee must remain on the project site through completion of the Contract, so long as training opportunities continue to exist in the relevant work classification. Should a TPG trainee's employment end in advance of the completion of the Contract, the Contractor must promptly notify the IDOT District EEO Officer for the Contract that the TPG's involvement in the Contract has ended. The Contractor must supply a written report for the reason the TPG trainee involvement terminated, the hours completed by the TPG trainee on the Contract, and the number of hours for which the incentive payment provided under this Special Provision will be, or has been claimed for the separated TPG trainee.

Finally, the Contractor must maintain all records it creates as a result of participation in the Program on the Contract, and furnish periodic written reports to the IDOT District EEO Officer that document its contractual performance under and compliance with this Special Provision. Finally, through participation in the Program and reimbursement of wages, the Contractor is not relieved of, and IDOT has not waived, the requirements of any federal or state labor or employment law applicable to TPG workers, including compliance with the Illinois Prevailing Wage Act.

Method of Measurement: The unit of measurement is in hours.

Basis of Payment: This work will be paid for at the contract unit price of \$15.00 per hour for each utilized certified TPG Program trainee (TRAINEES TRAINING PROGRAM GRADUATE). The estimated total number of hours, unit price, and total price must be included in the schedule of prices for the Contract submitted by Contractor prior to beginning work. The initial number of TPG trainees for which the incentive is available for this contract is 6.

The Department has contracted with several educational institutions to provide screening, tutoring and pre-training to individuals interested in working as a TPG trainee in various areas of common construction trade work. Only individuals who have successfully completed a Pre-Apprenticeship Training Program at these IDOT approved institutions are eligible to be TPG trainees. To obtain a list of institutions that can connect the Contractor with eligible TPG trainees, the Contractor may contact: HCCTP TPG Program Coordinator, Office of Business and Workforce Diversity (IDOT OBWD), Room 319, Illinois Department of Transportation, 2300 S. Dirksen Parkway, Springfield, Illinois 62764. Prior to commencing construction with the utilization of a TPG trainee, the Contractor must submit documentation to the IDOT District EEO Officer for the Contract that provides the names and contact information of the TPG trainee(s) to be trained in each selected work classification, proof that the TPG trainee(s) has successfully completed a Pre-Apprenticeship Training Program, proof that the TPG is in an Apprenticeship Training Program

approved by the U.S. Department of Labor Bureau of Apprenticeship Training, and the start date for training in each of the applicable work classifications.

To receive payment, the Contractor must provide training opportunities aimed at developing a full journeyworker in the type of trade or job classification involved. During the course of performance of the Contract, the Contractor may seek approval from the IDOT District EEO Officer to employ additional eligible TPG trainees. In the event the Contractor subcontracts a portion of the contracted work, it must determine how many, if any, of the TPGs will be trained by the subcontractor. Though a subcontractor may conduct training, the Contractor retains the responsibility for meeting all requirements imposed by this Special Provision. The Contractor must also include this Special Provision in any subcontract where payment for contracted work performed by a TPG trainee will be passed on to a subcontractor.

Training through the Program is intended to move TPGs toward journeyman status, which is the primary objective of this Special Provision. Accordingly, the Contractor must make every effort to enroll TPG trainees by recruitment through the Program participant educational institutions to the extent eligible TPGs are available within a reasonable geographic area of the project. The Contractor is responsible for demonstrating, through documentation, the recruitment efforts it has undertaken prior to the determination by IDOT whether the Contractor is in compliance with this Special Provision, and therefore, entitled to the Training Program Graduate reimbursement of \$15.00 per hour.

Notwithstanding the on-the-job training requirement of this TPG Special Provision, some minimal off-site training is permissible as long as the offsite training is an integral part of the work of the contract, and does not compromise or conflict with the required on-site training that is central to the purpose of the Program. No individual may be employed as a TPG trainee in any work classification in which he/she has previously successfully completed a training program leading to journeyman status in any trade, or in which he/she has worked at a journeyman level or higher.

VEHICLE AND EQUIPMENT WARNING LIGHTS (BDE)

Effective: November 1, 2021

Revised: November 1, 2026

Add the following paragraph after the first paragraph of Article 701.08 of the Standard Specifications:

“The Contractor shall equip all vehicles and equipment with high-intensity oscillating, rotating, or flashing; green, amber, or amber-and-white warning lights which are visible from all directions. In accordance with 625 ILCS 5/12-215, the lights may only be in operation while the vehicle or equipment is engaged in construction operations.”

WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012

Revised: January 2, 2025

The following applies to all Disadvantaged Business Enterprise (DBE) trucks on the project, whether they are utilized for DBE goal credit or not.

The Contractor shall notify the Engineer at least three days prior to DBE trucking activity.

The Contractor shall submit a weekly report of DBE trucks hired by the Contractor or subcontractors (i.e. not owned by the Contractor or subcontractors) to the Engineer on Department form "SBE 723" within ten business days following the reporting period. The reporting period shall be Sunday through Saturday for each week reportable trucking activities occur.

Any costs associated with providing weekly DBE trucking reports shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

Effective: March 2, 2020

Revised: January 1, 2026

Add the following to Article 701.03 of the Standard Specifications:

"(q) Temporary Sign Supports 1106.02"

Revise Article 701.03(p) of the Standard Specifications to read:

"(p) Detectable Pedestrian Channelizing Barricades 1106.02(m)"

Revise the third paragraph of Article 701.14 of the Standard Specifications to read:

"For temporary sign supports, the Contractor shall provide a FHWA eligibility letter for each device used on the contract. The letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device. The signs shall be supported within 20 degrees of vertical. Weights used to stabilize signs shall be attached to the sign support per the manufacturer's specifications."

Revise the first paragraph of Article 701.15 of the Standard Specifications to read:

" **701.15 Traffic Control Devices.** For devices that must meet crashworthiness standards, the Contractor shall provide a manufacturer's self-certification or a FHWA eligibility letter for each Category 1 device and a FHWA eligibility letter for each Category 2 and Category 3 device used on the contract. The self-certification or letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device."

Revise the first six paragraphs of Article 1106.02 of the Standard Specifications to read:

" **1106.02 Devices.** Work zone traffic control devices and combinations of devices shall meet crashworthiness standards for their respective categories. The categories are as follows.

Category 1 includes small, lightweight, channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, plastic drums, and delineators, with no attachments (e.g. lights). Category 1 devices shall be MASH compliant.

Category 2 includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. These include vertical panels with lights, barricades, temporary sign supports, and Category 1 devices with attachments (e.g. drums with lights). Category 2 devices shall be MASH compliant.

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions (impact attenuators), truck mounted attenuators, and other devices not meeting the definitions of Category 1 or 2. Category 3 devices manufactured after December 31, 2019 shall be MASH compliant. Category 3 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350, may be used on contracts let before December 31, 2029. Category 3 devices shall be crash tested for Test Level 3 or the test level specified.

Category 4 includes portable or trailer-mounted devices such as sign supports, speed feedback displays, arrow boards, changeable message signs, temporary traffic signals, and area lighting supports. It is preferable for Category 4 devices manufactured after December 31, 2019 to be MASH-16 compliant; however, there are currently no crash tested devices in this category, so it remains exempt from the NCHRP 350 or MASH compliance requirement.

For each type of device, when no more than one MASH compliant is available, an NCHRP 350 compliant device may be used, even if manufactured after December 31, 2019."

Revise the first paragraph of Section 1106.02(a) of the Standard Specifications to read:

"(a) Lights. Lights shall meet the requirements of Chapter 13 of the "Equipment and Materials Standards of the Institute of Transportation Engineers," 1998, Institute of Transportation Engineers, and shall be visible on a clear night from a distance of 3000 ft (900 m). Lights are classified as follows."

Revise Articles 1106.02(g), 1106.02(k), 1106.02(l), and 1106.02(m) of the Standard Specifications to read:

"(g) Truck Mounted/Trailer Mounted Attenuators. The attenuator shall be approved for use at Test Level 3. Test Level 2 may be used for normal posted speeds less than or equal to 45 mph.

(k) Temporary Water Filled Barrier. The water filled barrier shall be a lightweight plastic shell designed to accept water ballast and be on the Department's qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings.

- (l) Movable Traffic Barrier. The movable traffic barrier shall be on the Department's qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings. The barrier shall be capable of being moved on and off the roadway on a daily basis.

- (m) Detectable Pedestrian Channelizing Barricades. The top panel or handrail shall be continuous and there should be at least a 2 in. (50 mm) gap between the hand trailing edge and its support. When visible to vehicular traffic, the top rail shall have alternating white and orange retroreflective stripes sloping at 45 degrees. The bottom panel shall be continuous and have alternating white and orange retroreflective stripes sloping at 45 degrees. Barricade stripes shall be 6 in. (150 mm) in width. The predominant color for other barricade components shall be white, orange, or silver."

WORK ZONE WIDTH RESTRICTION (BDE)

Effective: July 1, 2026

Revise the second paragraph of Article 701.06 of the Standard Specifications to read:

"Where the clear width through a work zone will be 17.5 ft (5.34 m) or less, the Contractor shall notify the Engineer at least 21 days in advance of implementing the traffic control for that restriction."

PROJECT LABOR AGREEMENT

Effective: May 18, 2007

Revised: April 1, 2025

Description. The Illinois Project Labor Agreements Act, 30 ILCS 571, states that the State of Illinois has a compelling interest in awarding public works contracts so as to ensure the highest standards of quality and efficiency at the lowest responsible cost. A project labor agreement (PLA) is a form of pre-hire collective bargaining agreement covering all terms and conditions of employment on a specific project that is intended to support this compelling interest. It has been determined by the Department that a PLA is appropriate for the project that is the subject of this contract. The PLA document, provided below, only applies to the construction site for this contract. It is the policy of the Department on this contract, and all construction projects, to allow all contractors and subcontractors to compete for contracts and subcontracts without regard to whether they are otherwise parties to collective bargaining agreements.

The Department reserves the right to rescind the PLA requirement from this project in the event FHWA disapproves of the inclusion of the PLA terms for this project. The contractor, by bidding, agrees that any rescission of the PLA requirement shall not constitute grounds for the withdrawal of its bid and further agrees to remove the PLA requirement from this contract upon notice from the Department should such be necessary at a later date.

Execution of Letter of Assent. A copy of the PLA applicable to this project is included as part of this special provision. As a condition of the award of the contract, the successful bidder and each of its subcontractors shall execute a "Contractor Letter of Assent", in the form attached to the PLA as Exhibit A. The successful bidder shall submit a Subcontractor's Contractor Letter of Assent to the Department prior to the subcontractor's performance of work on the project. Upon request, copies of the applicable collective bargaining agreements will be provided by the appropriate signatory labor organization at the pre-job conference.

Quarterly Reporting. Section 37 of the Illinois Project Labor Agreements Act requires the Department to submit quarterly reports regarding the number of minorities and females employed under PLAs. To assist in this reporting effort, the Contractor shall provide a quarterly workforce participation report for all minority and female employees working under the PLA of this contract. The data shall be reported on Construction Form BC 820, Project Labor Agreement (PLA) Workforce Participation Quarterly Reporting Form available on the Department's website <https://idot.illinois.gov/content/dam/soi/en/web/idot/documents/idot-forms/bc/bc-820.pdf>.

The report shall be submitted no later than the 15th of the month following the end of each quarter (i.e., April 15 for the January – March reporting period). The form shall be emailed to DOT.PLA.Reporting@illinois.gov or faxed to (217) 524-4922.

Any costs associated with complying with this provision shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

Illinois Department of Transportation
PROJECT LABOR AGREEMENT

This Project Labor Agreement ("PLA" or "Agreement") is entered into this _____ day of

_____, 2026, by and between the Illinois Department of Transportation ("IDOT" or "Department") in its proprietary capacity, and each relevant Illinois AFL-CIO Building Trades signatory hereto as determined by the Illinois AFL-CIO Statewide Project Labor Agreement Committee on behalf of each of its affiliated members (individually and collectively, the "Unions"). This PLA shall apply to Construction Work (as defined herein) to be performed by IDOT's Prime Contractor and each of its subcontractors of whatever tier ("Subcontractor" or "Subcontractors") on Contract No. (hereinafter, the "Project").

ARTICLE I - INTENT AND PURPOSES

- 1.1 This PLA is entered into in accordance with the Project Labor Agreement Act ("Act", 30 ILCS 571). It is mutually understood and agreed that the terms and conditions of this PLA are intended to promote the public interest in obtaining timely and economical completion of the Project by encouraging productive and efficient construction operations; by establishing a spirit of harmony and cooperation among the parties; and by providing for peaceful and prompt settlement of any and all labor grievances or jurisdictional disputes of any kind without strikes, lockouts, slowdowns, delays, or other disruptions to the prosecution of the work. The parties acknowledge the obligations of the Contractors and Subcontractors to comply with the provisions of the Act. The parties will work with the Contractors and Subcontractors within the parameters of other statutory and regulatory requirements to implement the Act's goals and objectives.
- 1.2 As a condition of the award of the contract for performance of work on the Project, IDOT's Prime Contractor and each of its Subcontractors shall execute a "Contractor Letter of Assent", in the form attached hereto as Exhibit A, prior to commencing Construction Work on the Project. The Contractor shall submit a Subcontractor's Contractor Letter of Assent to the Department prior to the Subcontractor's performance of Construction Work on the Project. Upon request copies of the applicable collective bargaining agreements will be provided by the appropriate signatory labor organization consistent with this Agreement and at the pre-job conference referenced in Article III, Section 3.1.

- 1.3 Each Union affiliate and separate local representing workers engaged in Construction Work on the Project in accordance with this PLA are bound to this agreement by the Illinois AFL-CIO Statewide Project Labor Agreement Committee which is the central committee established with full authority to negotiate and sign PLAs with the State on behalf of all respective crafts. Upon their signing the Contractor Letter of Assent, the Prime Contractor, each Subcontractor, and the individual Unions shall thereafter be deemed a party to this PLA. No party signatory to this PLA shall, contract or subcontract, nor permit any other person, firm, company, or entity to contract or subcontract for the performance of Construction Work for the Project to any person, firm, company, or entity that does not agree in writing to become bound for the term of this Project by the terms of this PLA prior to commencing such work and to the applicable area-wide collective bargaining agreement(s) with the Union(s) signatory hereto.
- 1.4 It is understood that the Prime Contractor(s) and each Subcontractor will be considered and accepted by the Unions as separate employers for the purposes of collective bargaining, and it is further agreed that the employees working under this PLA shall constitute a bargaining unit separate and distinct from all others. The parties hereto also agree that this PLA shall be applicable solely with respect to this Project, and shall have no bearing on the interpretation of any other collective bargaining agreement or as to the recognition of any bargaining unit other than for the specific purposes of this Project.
- 1.5 In the event of a variance or conflict, whether explicit or implicit, between the terms and conditions of this PLA and the provisions of any other applicable national, area, or local collective bargaining agreement, the terms and conditions of this PLA shall supersede and control. For any work performed under the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, the National Agreement of the International Union of Elevator Constructors, and for any instrument calibration work and loop checking performed under the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, the preceding sentence shall apply only with respect to Articles I, II, V, VI, and VII.

- 1.6 Subject to the provisions of paragraph 1.5 of this Article, it is the parties' intent to respect the provisions of any other collective bargaining agreements that may now or hereafter pertain, whether between the Prime Contractor and one or more of the Unions or between a Subcontractor and one or more of the Unions. Accordingly, except and to the extent of any contrary provision set forth in this PLA, the Prime Contractor and each of its Subcontractors agrees to be bound and abide by the terms of the following in order of precedence: (a) the applicable collective bargaining agreement between the Prime Contractor and one or more of the Unions made signatory hereto; (b) the applicable collective bargaining agreement between a Subcontractor and one or more of the Unions made signatory hereto; or (c) the current applicable area collective bargaining agreement for the relevant Union that is the agreement certified by the Illinois Department of Labor for purposes of establishing the Prevailing Wage applicable to the Project. The Union will provide copies of the applicable collective bargaining agreements pursuant to part (c) of the preceding sentence to the Prime Contractor. Assignments by the Contractors or Subcontractors amongst the trades shall be consistent with area practices; in the event of unresolved disagreements as to the propriety of such assignments, the provisions of Article VI shall apply.
- 1.7 Subject to the limitations of paragraphs 1.4 to 1.6 of this Article, the terms of each applicable collective bargaining agreement as determined in accordance with paragraph 1.6 are incorporated herein by reference, and the terms of this PLA shall be deemed incorporated into such other applicable collective bargaining agreements only for purposes of their application to the Project.
- 1.8 To the extent necessary to comply with the requirements of any fringe benefit fund to which the Prime Contractor or Subcontractor is required to contribute under the terms of an applicable collective bargaining agreement pursuant to the preceding paragraph, the Prime Contractor or Subcontractor shall execute all "Participation Agreements" as may be reasonably required by the Union to accomplish such purpose; provided, however, that such Participation Agreements shall, when applicable to the Prime Contractor or Subcontractor solely as a result of this PLA, be amended as reasonably necessary to reflect such fact. Upon written notice in the form of a lien of a Contractor's or Subcontractor's delinquency from any applicable fringe benefit fund, IDOT will withhold from the Contractor's periodic pay request an amount sufficient to extinguish any delinquency obligation of the Contractor or Subcontractor arising out of the Project.
- 1.9 In the event that the applicable collective bargaining agreement between a Prime Contractor and the Union or between the Subcontractor and the Union expires prior to the completion of this Project, the expired applicable contract's terms will be maintained until a new applicable collective bargaining agreement is ratified. The wages and fringe benefits included in any new applicable collective bargaining agreement will apply on and after the effective date of the newly negotiated collective bargaining agreement, except to the extent wage and fringe benefit retroactivity is specifically agreed upon by the relevant bargaining parties.

ARTICLE II – APPLICABILITY, RECOGNITION, AND COMMITMENTS

- 2.1 The term Construction Work as used herein shall include all “construction, demolition, rehabilitation, renovation, or repair” work performed by a “laborer or mechanic” at the “site of the work” for the purpose of “building” the specific structures and improvements that constitute the Project. Terms appearing within quotation marks in the preceding sentence shall have the meaning ascribed to them pursuant to 29 CFR Part 5 and Illinois labor laws.
- 2.2 By executing the Letters of Assent, Prime Contractor and each of its Subcontractors recognizes the Unions signatory to this PLA as the sole and exclusive bargaining representatives for their craft employees employed on the jobsite for this Project. Unions who are signatory to this PLA will have recognition on the Project for their craft.
- 2.3 The Prime Contractor and each of its Subcontractors retains and shall be permitted to exercise full and exclusive authority and responsibility for the management of its operations, except as expressly limited by the terms of this PLA or by the terms and conditions of the applicable collective bargaining agreement.
- 2.4 Except to the extent contrary to an express provision of the relevant collective bargaining agreement, equipment or materials used in the Project may be pre-assembled or pre-fabricated, and there shall be no refusal by the Union to handle, transport, install, or connect such equipment or materials. Equipment or materials delivered to the job-site will be unloaded and handled promptly without regard to potential jurisdictional disputes; any such disputes shall be handled in accordance with the provisions of this PLA.
- 2.5 The parties are mutually committed to promoting a safe working environment for all personnel at the job-site. It shall be the responsibility of each employer to which this PLA applies to provide and maintain safe working conditions for its employees, and to comply with all applicable federal, state, and local health and safety laws and regulations.
- 2.6 The use or furnishing of alcohol or drugs and the conduct of any other illegal activity at the job-site is strictly prohibited. The parties shall take every practical measure consistent with the terms of applicable collective bargaining agreements to ensure that the job-site is free of alcohol and drugs.
- 2.7 All parties to this PLA agree that they will not discriminate against any employee based on race, creed, religion, color, national origin, union activity, age, gender or sexual orientation and shall comply with all applicable federal, state, and local laws.

- 2.8 In accordance with the Act and to promote diversity in employment, IDOT will establish, in cooperation with the other parties, the apprenticeship hours which are to be performed by minorities and females on the Project. IDOT shall consider the total hours to be performed by these underrepresented groups, as a percentage of the workforce, and create aspirational goals for each Project, based on the level of underutilization for the service area of the Project (together "Project Employment Objectives"). IDOT shall provide a quarterly report regarding the racial and gender composition of the workforce on the Project.

Persons currently lacking qualifications to enter apprenticeship programs will have the opportunity to obtain skills through basic training programs as have been established by the Department. The parties will endeavor to support such training programs to allow participants to obtain the requisite qualifications for the Project Employment Objectives.

The parties agree that all Contractors and Subcontractors working on the Project shall be encouraged to utilize the maximum number of apprentices as permitted under the terms of the applicable collective bargaining agreements to realize the Project Employment Objectives.

The Unions shall assist the Contractor and each Subcontractor in efforts to satisfy Project Employment Objectives. A Contractor or Subcontractor may request from a Union specific categories of workers necessary to satisfy Project Employment Objectives. The application of this section shall be consistent with all local Union collective bargaining agreements, and the hiring hall rules and regulations established for the hiring of personnel, as well as the apprenticeship standards set forth by each individual Union.

- 2.9 The parties hereto agree that engineering consultants and materials testing employees, to the extent subject to the terms of this PLA, shall be fully expected to objectively and responsibly perform their duties and obligations owed to the Department without regard to the potential union affiliation of such employees or of other employees on the Project.
- 2.10 This Agreement shall not apply to IDOT employees or employees of any other governmental entity.

ARTICLE III - ADMINISTRATION OF AGREEMENT

- 3.1 In order to assure that all parties have a clear understanding of the PLA, and to promote harmony, at the request of the Unions a post-award pre-job conference will be held among the Prime Contractor, all Subcontractors and Union representatives prior to the start of any Construction Work on the Project. No later than the conclusion of such pre-job conference, the parties shall, among other matters, provide to one another contact information for their respective representatives (including name, address, phone number, facsimile number, e-mail). Nothing herein shall be construed to limit the right of the Department to discuss or explain the purpose and intent of this PLA with prospective bidders or other interested parties prior to or following its award of the job.
- 3.2 Representatives of the Prime Contractor and the Unions shall meet as often as reasonably necessary following award until completion of the Project to assure the effective implementation of this PLA.
- 3.3 Any notice contemplated under Article VI and VII of this Agreement to a signatory labor organization shall be made in writing to the Local Union with copies to the local union's International Representative.

ARTICLE IV - HOURS OF WORK AND GENERAL CONDITIONS

- 4.1 The standard work day and work week for Construction Work on the Project shall be consistent with the respective collective bargaining agreements. In the event Project site or other job conditions dictate a change in the established starting time and/or a staggered lunch period for portions of the Project or for specific crafts, the Prime Contractor, relevant Subcontractors and business managers of the specific crafts involved shall confer and mutually agree to such changes as appropriate. If proposed work schedule changes cannot be mutually agreed upon between the parties, the hours fixed at the time of the pre-job meeting shall prevail.
- 4.2 Shift work may be established and directed by the Prime Contractor or relevant Subcontractor as reasonably necessary or appropriate to fulfill the terms of its contract with the Department. If used, shift hours, rates and conditions shall be as provided in the applicable collective bargaining agreement.
- 4.3 The parties agree that chronic and/or unexcused absenteeism is undesirable and must be controlled in accordance with procedures established by the applicable collective bargaining agreement. Any employee disciplined for absenteeism in accordance with such procedures shall be suspended from all work on the Project for not less than the maximum period permitted under the applicable collective bargaining agreement.

- 4.4 Except as may be otherwise expressly provided by the applicable collective bargaining agreement, employment begins and ends at the Project site; employees shall be at their place of work at the starting time; and employees shall remain at their place of work until quitting time.
- 4.5 Except as may be otherwise expressly provided by the applicable collective bargaining agreement, there shall be no limit on production by workmen, no restrictions on the full use of tools or equipment, and no restrictions on efficient use of manpower or techniques of construction other than as may be required by safety regulations.
- 4.6 The parties recognize that specialized or unusual equipment may be installed on the Project. In such cases, the Union recognizes the right of the Prime Contractor or Subcontractor to involve the equipment supplier or vendor's personnel in supervising the setting up of the equipment, making modifications and final alignment, and performing similar activities that may be reasonably necessary prior to and during the start-up procedure in order to protect factory warranties. The Prime Contractor or Subcontractor shall notify the Union representatives in advance of any work at the job-site by such vendor personnel in order to promote a harmonious relationship between the equipment vendor's personnel and other Project employees.
- 4.7 For the purpose of promoting full and effective implementation of this PLA, authorized Union representatives shall have access to the Project job-site during scheduled work hours. Such access shall be conditioned upon adherence to all reasonable visitor and security rules of general applicability that may be established for the Project site at the pre-job conference or from time to time thereafter.

ARTICLE V – GRIEVANCE PROCEDURES FOR DISPUTES ARISING UNDER A PARTICULAR COLLECTIVE BARGAINING AGREEMENT

- 5.1 In the event a dispute arises under a particular collective bargaining agreement specifically not including jurisdictional disputes referenced in Article VI below, said dispute shall be resolved by the Grievance/Arbitration procedure of the applicable collective bargaining agreement. The resulting determination from this process shall be final and binding on all parties bound to its process.
- 5.2 Employers covered under this Agreement shall have the right to discharge or discipline any employee who violates the provisions of this Agreement. Such discharge or discipline by a contractor or subcontractor shall be subject to Grievance/Arbitration procedure of the applicable collective bargaining agreement only as to the fact of such violation of this agreement. If such fact is established, the penalty imposed shall not be disturbed. Work at the Project site shall continue without disruption or hindrance of any kind as a result of a Grievance/Arbitration procedure under this Article.

- 5.3 In the event there is a deadlock in the foregoing procedure, the parties agree that the matter shall be submitted to arbitration for the selection and decision of an Arbitrator governed under paragraph 6.8.

ARTICLE VI –DISPUTES: GENERAL PRINCIPLES

- 6.1 This Agreement is entered into to prevent strikes, lost time, lockouts and to facilitate the peaceful adjustment of jurisdictional disputes in the building and construction industry and to prevent waste and unnecessary avoidable delays and expense, and for the further purpose of at all times securing for the employer sufficient skilled workers.

- 6.2 A panel of Permanent Arbitrators are attached as addendum (A) to this agreement. By mutual agreement between IDOT and the Unions, the parties can open this section of the agreement as needed to make changes to the list of permanent arbitrators.

The arbitrator is not authorized to award back pay or any other damages for a miss assignment of work. Nor may any party bring an independent action for back pay or any other damages, based upon a decision of an arbitrator.

- 6.3 The PLA Jurisdictional Dispute Resolution Process ("Process") sets forth the procedures below to resolve jurisdictional disputes between and among Contractors, Subcontractors, and Unions engaged in the building and construction industry. Further, the Process will be followed for any grievance or dispute arising out of the interpretation or application of this PLA by the parties except for the prohibition on attorneys contained in 6.11. All decisions made through the Process are final and binding upon all parties.

DISPUTE PROCESS

- 6.4 Administrative functions under the Process shall be performed through the offices of the President and/or Secretary-Treasurer of the Illinois State Federation of Labor, or their designated representative, called the Administrator. In no event shall any officer, employee, agent, attorney, or other representative of the Illinois Federation of Labor, AFL- CIO be subject to any subpoena to appear or testify at any jurisdictional dispute hearing.
- 6.5 There shall be no abandonment of work during any case participating in this Process or in violation of the arbitration decision. All parties to this Process release the Illinois State Federation of Labor ("Federation") from any liability arising from its action or inaction and covenant not to sue the Federation, nor its officers, employees, agents or attorneys.

- 6.6 In the event of a dispute relating to trade or work jurisdiction, all parties, including the employers, Contractors or Subcontractors, agree that a final and binding resolution of the dispute shall be resolved as follows:
- (a) Representatives of the affected trades and the Contractor or Subcontractor shall meet on the job site within two (2) business days after receiving written notice in an effort to resolve the dispute. (In the event there is a dispute between local unions affiliated with the same International Union, the decision of the General President, or his/her designee, as the internal jurisdictional authority of that International Union, shall constitute a final and binding decision and determination as to the jurisdiction of work.)
 - (b) If no settlement is achieved subsequent to the preceding Paragraph, the matter shall be referred to the local area Building & Construction Trades Council, which shall meet with the affected trades within two (2) business days subsequent to receiving written notice. In the event the parties do not wish to avail themselves of the local Building & Construction Trades Council, the parties may elect to invoke the services of their respective International Representatives with no extension of the time limitations. An agreement reached at this Step shall be final and binding upon all parties.
 - (c) If no settlement agreement is reached during the proceedings contemplated by Paragraphs "a" or "b" above, the matter shall be immediately referred to the Illinois Jurisdictional Dispute Process for final and binding resolution of said dispute. Said referral submission shall be in writing and served upon the Illinois State Federation of Labor, or the Administrator, pursuant to paragraph 6.4 of this agreement. The Administrator shall, within three (3) days, provide for the selection of an available Arbitrator to hear said dispute within this time period. Upon good cause shown and determined by the Administrator, an additional three (3) day extension for said hearing shall be granted at the sole discretion of the Administrator. Only upon mutual agreement of all parties may the Administrator extend the hearing for a period in excess of the time frames contemplated under this Paragraph. Business days are defined as Monday through Friday, excluding contract holidays.
- 6.7 The primary concern of the Process shall be the adjustment of jurisdictional disputes arising out of the Project. A sufficient number of Arbitrators shall be selected from list of approved Arbitrators as referenced Sec. 6.2 and shall be assigned per Sec. 6.8. Decisions shall be only for the Project and shall become effective immediately upon issuance and complied with by all parties. The authority of the Arbitrator shall be restricted and limited specifically to the terms and provisions of Article VI and generally to this Agreement as a whole.

- 6.8 Arbitrator chosen shall be randomly selected based on the list of Arbitrators in Sec. 6.2 and geographical location of the jurisdictional dispute and upon his/her availability, and ability to conduct a Hearing within two (2) business days of said notice. The Arbitrator may issue a "bench" decision immediately following the Hearing or he/she may elect to only issue a written decision, said decision must be issued within two (2) business days subsequent to the completion of the Hearing. Copies of all notices, pleadings, supporting memoranda, decisions, etc. shall be provided to all disputing parties and the Illinois State Federation of Labor.

Any written decision shall be in accordance with this Process and shall be final and binding upon all parties to the dispute and may be a "short form" decision. Fees and costs of the arbitrator shall be divided evenly between the contesting parties except that any party wishing a full opinion and decision beyond the short form decision shall bear the reasonable fees and costs of such full opinion. The decision of the Arbitrator shall be final and binding upon the parties hereto, their members, and affiliates.

In cases of jurisdictional disputes or other disputes between a signatory labor organization and another labor organization, both of which is an affiliate or member of the same International Union, the matter or dispute shall be settled in the manner set forth by their International Constitution and/or as determined by the International Union's General President whose decision shall be final and binding upon all parties. In no event shall there be an abandonment of work.

- 6.9 In rendering a decision, the Arbitrator shall determine:
- (a) First, whether a previous agreement of record or applicable agreement, including a disclaimer agreement, between National or International Unions to the dispute or agreements between local unions involved in the dispute, governs;
 - (b) Only if the Arbitrator finds that the dispute is not covered by an appropriate or applicable agreement of record or agreement between the crafts to the dispute, he shall then consider the established trade practice in the industry and prevailing practice in the locality. Where there is a previous decision of record governing the case, the Arbitrator shall give equal weight to such decision of record, unless the prevailing practice in the locality in the past ten years favors one craft. In that case, the Arbitrator shall base his decision on the prevailing practice in the locality. Except, that if the Arbitrator finds that a craft has improperly obtained the prevailing practice in the locality through raiding, the undercutting of wages or by the use of vertical agreements, the Arbitrator shall rely on the decision of record and established trade practice in the industry rather than the prevailing practice in the locality; and,

- (c) Only if none of the above criteria is found to exist, the Arbitrator shall then consider that because efficiency, cost or continuity and good management are essential to the well being of the industry, the interests of the consumer or the past practices of the employer shall not be ignored.
 - (d) The arbitrator is not authorized to award back pay or any other damages for a mis-assignment of work. Nor may any party bring an independent action for back pay or any other damages, based upon a decision of an arbitrator.
- 6.10 The Arbitrator shall set forth the basis for his/her decision and shall explain his/her findings regarding the applicability of the above criteria. If lower ranked criteria are relied upon, the Arbitrator shall explain why the higher-ranked criteria were not deemed applicable. The Arbitrator's decision shall only apply to the Project. Agreements of Record, for other PLA projects, are applicable only to those parties signatory to such agreements. Decisions of Record are those that were either attested to by the former Impartial Jurisdictional Disputes Board or adopted by the National Arbitration Panel.
- 6.11 All interested parties, as determined by the Arbitrator, shall be entitled to make presentations to the Arbitrator. Any interested labor organization affiliated to the PLA Committee and party present at the Hearing, whether making a presentation or not, by such presence shall be deemed to accept the jurisdiction of the Arbitrator and to agree to be bound by its decision. In addition to the representative of the local labor organization, a representative of the labor organization's International Union may appear on behalf of the parties. Each party is responsible for arranging for its witnesses. In the event an Arbitrator's subpoena is required, the party requiring said subpoena shall prepare the subpoena for the Arbitrator to execute. Service of the subpoena upon any witness shall be the responsibility of the issuing party.

Attorneys shall not be permitted to attend or participate in any portion of a Hearing.

The parties are encouraged to determine, prior to Hearing, documentary evidence which may be presented to the Arbitrator on a joint basis.

- 6.12 The Order of Presentation in all Hearings before an Arbitrator shall be
- I. Identification and Stipulation of the Parties
 - II. Unions(s) claiming the disputed work presents its case
 - III. Union(s) assigned the disputed work presents its case
 - IV. Employer assigning the disputed work presents its case
 - V. Evidence from other interested parties (i.e., general contractor, project manager, owner)
 - VI. Rebuttal by union(s) claiming the disputed work
 - VII. Additional submissions permitted and requested by Arbitrator
 - VIII. Closing arguments by the parties

- 6.13 All parties bound to the provisions of this Process hereby release the Illinois State Federation of Labor and IDOT, their respective officers, agents, employees or designated representatives, specifically including any Arbitrator participating in said Process, from any and all liability or claim, of whatsoever nature, and specifically incorporating the protections provided in the Illinois Arbitration Act, as amended from time to time.
- 6.14 The Process, as an arbitration panel, nor its Administrator, shall have any authority to undertake any action to enforce its decision(s). Rather, it shall be the responsibility of the prevailing party to seek appropriate enforcement of a decision, including findings, orders or awards of the Arbitrator or Administrator determining non-compliance with a prior award or decision.
- 6.15 If at any time there is a question as to the jurisdiction of the Illinois Jurisdictional Dispute Resolution Process, the primary responsibility for any determination of the arbitrability of a dispute and the jurisdiction of the Arbitrator shall be borne by the party requesting the Arbitrator to hear the underlying jurisdictional dispute. The affected party or parties may proceed before the Arbitrator even in the absence or one or more stipulated parties with the issue of jurisdiction as an additional item to be decided by the Arbitrator. The Administrator may participate in proceedings seeking a declaration or determination that the underlying dispute is subject to the jurisdiction and process of the Illinois Jurisdictional Dispute Resolution Process. In any such proceedings, the non-prevailing party and/or the party challenging the jurisdiction of the Illinois Jurisdictional Dispute Resolution Process shall bear all the costs, expenses and attorneys' fees incurred by the Illinois Jurisdictional Dispute Resolution Process and/or its Administrator in establishing its jurisdiction.

ARTICLE VII - WORK STOPPAGES AND LOCKOUTS

- 7.1 During the term of this PLA, no Union or any of its members, officers, stewards, employees, agents or representatives shall instigate, support, sanction, maintain, or participate in any strike, picketing, walkout, work stoppage, slow down or other activity that interferes with the routine and timely prosecution of work at the Project site or at any other contractor's or supplier's facility that is necessary to performance of work at the Project site. Hand billing at the Project site during the designated lunch period and before commencement or following conclusion of the established standard workday shall not, in itself, be deemed an activity that interferes with the routine and timely prosecution of work on the Project.

7.2 Should any activity prohibited by paragraph 7.1 of this Article occur, the Union shall undertake all steps reasonably necessary to promptly end such prohibited activities.

7.2.A No Union complying with its obligations under this Article shall be liable for acts of employees for which it has no responsibility or for the unauthorized acts of employees it represents. Any employee who participates or encourages any activity prohibited by paragraph 7.1 shall be immediately suspended from all work on the Project for a period equal to the greater of (a) 60 days; or (b) the maximum disciplinary period allowed under the applicable collective bargaining agreement for engaging in comparable unauthorized or prohibited activity.

7.2.B Neither the PLA Committee nor its affiliates shall be liable for acts of employees for which it has no responsibility. The principal officer or officers of the PLA Committee will immediately instruct, order and use the best efforts of his office to cause the affiliated union or unions to cease any violations of this Article. The PLA Committee in its compliance with this obligation shall not be liable for acts of its affiliates. The principal officer or officers of any involved affiliate will immediately instruct, order or use the best effort of his office to cause the employees the union represents to cease any violations of this Article. A union complying with this obligation shall not be liable for unauthorized acts of employees it represents. The failure of the Contractor to exercise its rights in any instance shall not be deemed a waiver of its rights in any other instance.

During the term of this PLA, the Prime Contractor and its Subcontractors shall not engage in any lockout at the Project site of employees covered by this Agreement.

7.3 Upon notification of violations of this Article, the principal officer or officers of the local area Building and Construction Trades Council, and the Illinois AFL-CIO Statewide Project Labor Agreement Committee as appropriate, will immediately instruct, order and use their best efforts to cause the affiliated union or unions to cease any violations of this Article. A Trades Council and the Committee otherwise in compliance with the obligations under this paragraph shall not be liable for unauthorized acts of its affiliates.

7.4 In the event that activities in violation of this Article are not immediately halted through the efforts of the parties, any aggrieved party may invoke the special arbitration provisions set forth in paragraph 7.5 of this Article.

- 7.5 Upon written notice to the other involved parties by the most expeditious means available, any aggrieved party may institute the following special arbitration procedure when a breach of this Article is alleged:
- 7.5.A The party invoking this procedure shall notify the individual designated as the Permanent Arbitrator pursuant to paragraph 6.8 of the nature of the alleged violation; such notice shall be by the most expeditious means possible. The initiating party may also furnish such additional factual information as may be reasonably necessary for the Permanent Arbitrator to understand the relevant circumstances. Copies of any written materials provided to the arbitrator shall also be contemporaneously provided by the most expeditious means possible to the party alleged to be in violation and to all other involved parties.
 - 7.5.B Upon receipt of said notice the Permanent Arbitrator shall set and hold a hearing within twenty-four (24) hours if it is contended the violation is ongoing, but not before twenty-four (24) hours after the written notice to all parties involved as required above.
 - 7.5.C The Permanent Arbitrator shall notify the parties by facsimile or any other effective written means, of the place and time chosen by the Permanent Arbitrator for this hearing. Said hearing shall be completed in one session. A failure of any party or parties to attend said hearing shall not delay the hearing of evidence or issuance of an Award by the Permanent Arbitrator.
 - 7.5.D The sole issue at the hearing shall be whether a violation of this Article has, in fact, occurred. An Award shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within fifteen (15) days, but its issuance shall not delay compliance with, or enforcement of, the Award. The Permanent Arbitrator may order cessation of the violation of this Article, and such Award shall be served on all parties by hand or registered mail upon issuance.
 - 7.5.E Such Award may be enforced by any court of competent jurisdiction upon the filing of the Award and such other relevant documents as may be required. Facsimile or other hardcopy written notice of the filing of such enforcement proceedings shall be given to the other relevant parties. In a proceeding to obtain a temporary order enforcing the Permanent Arbitrator's Award as issued under this Article, all parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order of enforcement. The Court's order or orders enforcing the Permanent Arbitrator's Award shall be served on all parties by hand or by delivery to their last known address or by registered mail.

- 7.6 Individuals found to have violated the provisions of this Article are subject to immediate termination. In addition, IDOT reserves the right to terminate this PLA as to any party found to have violated the provisions of this Article.
- 7.7 Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance therewith are hereby waived by parties to whom they accrue.
- 7.8 The fees and expenses of the Permanent Arbitrator shall be borne by the party or parties found in violation, or in the event no violation is found, such fees and expenses shall be borne by the moving party.

ARTICLE VIII – TERMS OF AGREEMENT

- 8.1 If any Article or provision of this Agreement shall be declared invalid, inoperative or unenforceable by operation of law or by any of the above mentioned tribunals of competent jurisdiction, the remainder of this Agreement or the application of such Article or provision to persons or circumstances other than those as to which it has been held invalid, inoperative or unenforceable shall not be affected thereby.
- 8.2 This Agreement shall be in full force as of and from the date of the Notice of Award until the Project contract is closed.
- 8.3 This PLA may not be changed or modified except by the subsequent written agreement of the parties. All parties represent that they have the full legal authority to enter into this PLA. This PLA may be executed by the parties in one or more counterparts.
- 8.4 Any liability arising out of this PLA shall be several and not joint. IDOT shall not be liable to any person or other party for any violation of this PLA by any other party, and no Contractor or Union shall be liable for any violation of this PLA by any other Contractor or Union.
- 8.5 The failure or refusal of a party to exercise its rights hereunder in one or more instances shall not be deemed a waiver of any such rights in respect of a separate instance of the same or similar nature.

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Addendum A

IDOT Slate of Permanent Arbitrators

1. Bruce Feldacker
2. Thomas F. Gibbons
3. Edward J. Harrick
4. Brent L. Motchan
5. Robert Perkovich
6. Byron Yaffee
7. Glenn A. Zipp

Exhibit A - Contractor Letter of Assent

(Date)

To All Parties:

In accordance with the terms and conditions of the contract for Construction Work on [Contract No.], this Letter of Assent hereby confirms that the undersigned Prime Contractor or Subcontractor agrees to be bound by the terms and conditions of the Project Labor Agreement established and entered into by the Illinois Department of Transportation in connection with said Project.

It is the understanding and intent of the undersigned party that this Project Labor Agreement shall pertain only to the identified Project. In the event it is necessary for the undersigned party to become signatory to a collective bargaining agreement to which it is not otherwise a party in order that it may lawfully make certain required contributions to applicable fringe benefit funds, the undersigned party hereby expressly conditions its acceptance of and limits its participation in such collective bargaining agreement to its work on the Project.

(Authorized Company Officer)

(Company)

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work

performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide

sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants /

Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:

The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA- 1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), 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 basic hourly 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. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. 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 must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. 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 classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must 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. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. Conformance. (1) The contracting officer must 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 be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate 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 used 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) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) 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 will be sent by the contracting officer by email to DBAconformance@dol.gov. 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.

(4) 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 will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must 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.

d. Fringe benefits not expressed as an hourly rate.

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 may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. Unfunded plans. 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, in accordance with the criteria set forth in § 5.28, 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.

f. Interest. In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. Withholding requirements. The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and 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.

b. Priority to withheld funds. The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

3. Records and certified payrolls (29 CFR 5.5)

a. Basic record requirements (1) Length of record retention. All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) Information required. Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) Additional records relating to fringe benefits. Whenever the Secretary of Labor has found under paragraph 1.e. of this section 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must 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.

(4) Additional records relating to apprenticeship. Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. Certified payroll requirements (1) Frequency and method of submission. The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting

agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) Information required. The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHDLegacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) Statement of Compliance. Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in [29 CFR part 3](#); and

(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(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) Use of Optional Form WH-347. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access (1) Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, 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, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address

of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices (1) Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform 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 (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must 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, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must 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 this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it 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 [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. 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 watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, 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 that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the

event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and

health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

- a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

- b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

* * * * *

3. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

- a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

- c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

- e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

- i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or

cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY
SYSTEM OR APPALACHIAN LOCAL ACCESS**

ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)
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.